WONDER Stories Quarterly

FALL 1931

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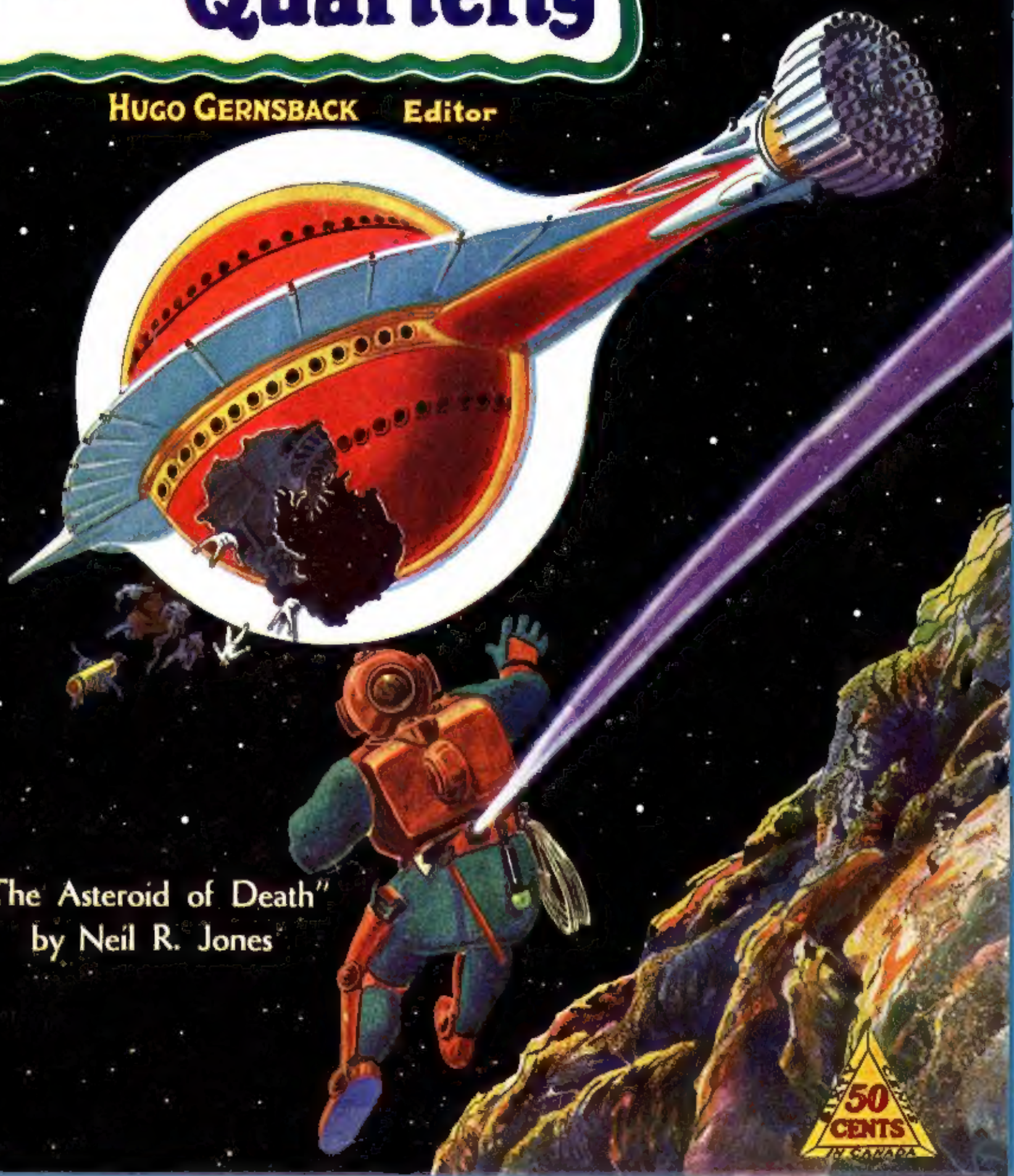

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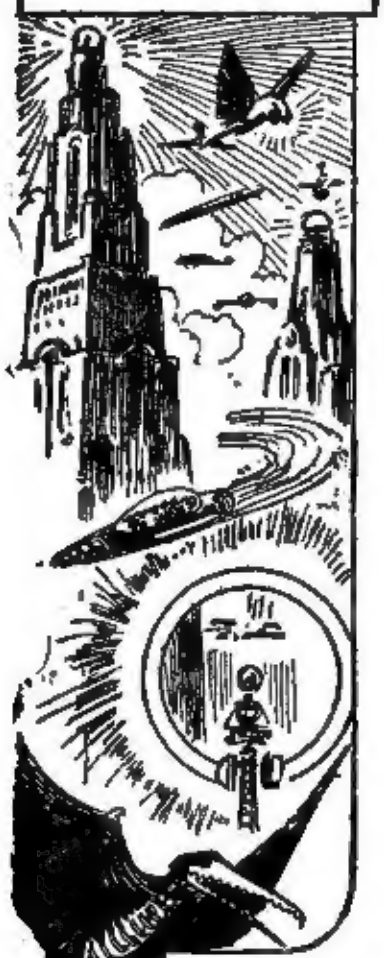

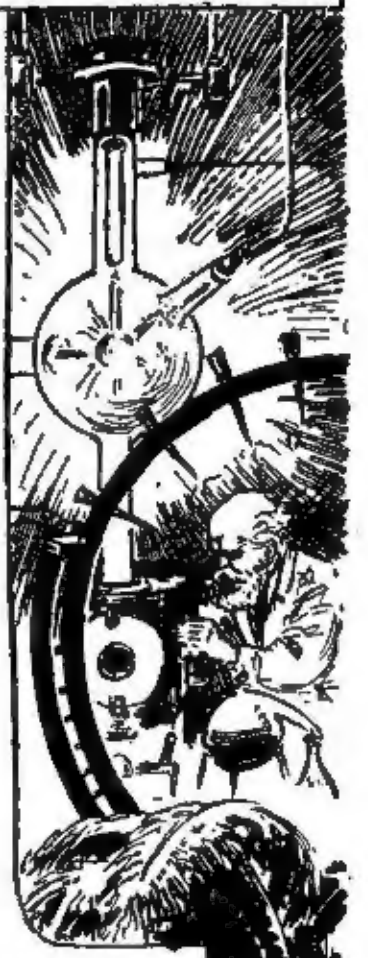

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Vol. 3 No. 1

WONDER Stories Quarterly

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WANTED: MORE PLOTS

IN this issue of the Quarterly, you will find the first two stories resulting from the Interplanetary Plot Contest announced several months ago.

These, as well as the stories to appear in succeeding issues, which were prize winners in the Interplanetary Plot Contest, will be found, in our opinion, to have most excellent plots. The contest has brought into life, stories which otherwise might never have seen the light of day.

We firmly believe that this contest has been the means to stir up something entirely new in science fiction literature, and to advance the art of science fiction. So impressed have we been with the results of the contest, that we have determined to make it a permanent part of this magazine.

There is no good reason why you, as a reader, should not have as good ideas for interplanetary plots as any author. As a matter of fact, the average man who is not an author looks upon science fiction through a different sort of mental glasses. He has more "perspective". For that reason, there is usually an originality and freshness, in readers' ideas, that often are unmatched by the best of our authors.

It has, therefore, been decided to make a standing offer of $10.00 for any plot acceptable to the editorial board, prize to be paid upon publication of the story. The point we wish to stress now, particularly, is that the plot must be original, and must not have been used before. In the last contest, a great many plots did not win prizes because they contained too many ideas along the following lines:

(1) They dealt only with interplanetary wars;

(2) They dealt with strange but unplausible interplanetary beasts;

(3) They showed our hero going to another planet simply to rescue a fair princess from an evil high priest;

(4) They showed our explorers going clear out of the solar system to another world and *finding people just like ourselves.*

Therefore, if you hope to have your plot accepted, steer clear of those hackneyed and unrealistic ideas.

We will pay the uniform prize of $10.00 for each accepted plot. This offer will hold for an entire year from the date of this publication, and may be extended by the publishers if satisfactory results have been received.

For other details regarding the plots, we refer you to the Spring 1931 issue of WONDER STORIES QUARTERLY (Volume 2, No. 3). Should you not have a copy of this magazine, we shall be glad to send you printed matter relating to the details of the contest.

WONDER STORIES QUARTERLY will, for the next year, pay $10.00 for each Interplanetary plot suggested by our readers that we accept. This contest is meant for our readers only; and professional authors are barred from it. $10.00 will be paid to the winner upon publication of the story.

Inamuch as the plot will be handed to one of our regular authors, who will write the story, the winning story will, therefore, be signed jointly by the reader-author and the professional author who will use the plot as a basis for the story.

The Next Issue of WONDER STORIES QUARTERLY Will Be on Sale December 15, 1931

The Cosmic Cloud

By Bruno H. Burgel

(Illustration by Paul)

Only hunting and nomad people could sustain life there. Northern cities of once great importance were deserted. The population streamed southward.

THE COSMIC CLOUD

Translated by Konrad Schmidt and Fletcher Pratt

THE vast field of snow, interrupted here and there by sharp spicules of ice, glared brilliantly under the morning sun. A peculiar yellow-brown umbra surrounded the star of day, whose first rays imparted a pinkish hue to the scene, making blots of contrasting color where light and shadow met.

At the crest of an icy hummock stood two men who contemplated the fairy-like scene through powerful field-glasses, turning this way and that to look across the frozen ocean.

At a considerable distance a small detachment of mounted police had halted. In accordance with orders from the United States of Europe, they remained modestly in the background; their mission was to watch over the safety of the pair and only to intervene in case a sudden ice-crack brought the explorers into danger.

The commander of the little troop was soothing his horse, which evidently had some objection to standing on the icy surface. He patted the neck of the small brown animal and felt in his pocket for a piece of sugar. He too would have liked to follow the explorers to the crest of their hill for a closer inspection of the remarkable airship that stood just beyond.

He had been informed that they were commissioners from the powerful nation of the torrid zone, high officials of the United States of Africa. Many things hung on the report they would transmit to their home government.

What had become of the old continent of Europe, once so dominant through the world? The great catastrophe had but thrown her into the shadow, in the truest sense of the word; the sun had lost its power; the ice-age had gripped the whole northern hemisphere!

One of the gentlemen on the hill, the High Commissioner Ismail Chak, so small in stature that his thick furs made him resemble a round, hairy ball, turned slowly round, sweeping his glass over the limitless field of ice which glared in the sun like a silver mirror.

He shook his head. "What a sight! As many times as one reads about it in the papers, sees it pictured or watches it through the television machine, one still finds the reality astonishing!"

His companion, the geologist Vanderstrassen, whom the government of the United States of Africa had sent with the Commissioner as his scientific counsel, lowered his glass:

"Yes, in this respect we are very much like our ancestors, in spite of all the changes which have taken place in the course of centuries, in spite of all our technical progress and the transformation of our methods of thinking. I take it the North is new to you, Commissioner?"

"As a young man I was in the consular service in Paris and once made an excursion to the Channel. That's as far north as I have ever been before. But that was in the summer and I had little opportunity to see the ice and snow. That's what makes this enchanted world so astonishing to me; as it is to all the people from the Equator."

The short, pudgy gentleman turned in the other direction, thoughtfully contemplating the horizon with his glass. Vanderstrassen, compass and map in hand, stood behind him.

"You are now looking due north, Commissioner. There in the distance is Spitzbergen, and off to the west is Greenland. Just where we stand the pretty little town of Hammerfest once stood; now it is buried in the ice. Centuries ago all this place around us was open water; the catastrophe has changed it into a field of ice out of which these bergs stand up so defiantly. Far to the north lies the Pole, the huge refrigerator which has brought about the destruc-

BRUNO H. BURGEL

WE offer herewith, to our readers, another of the masterly interplanetary stories of the future, that we have brought from Germany and translated. It is a worthy successor to the thrilling works of Otto Willi Gail, and Otfrid von Hanstein.

The story deals very powerfully with a subject that we think all too little about, yet one that is of the utmost importance to us. We know that our life on earth, "like bacteria on the surface of an apple," as our author puts it, is very precarious. An infinitesimal disturbance in the cosmos can wipe us out, just as the bacteria can be wiped from the apple.

We know that ice ages swept over the earth, and destroyed a good part of humanity. It is even possible that, in a past age, humanity may have risen to a respectable degree of civilization, only to be thrown back to the level of the brute by a cosmic cataclysm.

There is no reason why some force outside the earth, even outside the solar system, cannot operate again to endanger or destroy us. And what would man do, if such as the Cosmic Cloud arrived and threatened once more to beat our race back to the savagery from which we have painfully climbed? The story answers these questions in a really remarkable tale.

tion of Europe."

"If it were only Europe, Vanderstrassen, it wouldn't be so bad. The inhabitants of the old center of civilization could be saved by migrating, but as it is the whole of northern Asia and North America are menaced as well. It will be a catastrophe such as the world has never seen."

Vanderstrassen nodded, and an expression of profound concern appeared on his face. But since he affected an optimistic viewpoint he said:

"We shouldn't forget that the glaciers from the north are gaining very slowly in the course of the centuries, and that the south of Europe will remain habitable for a long time to come; though I suppose the Mediterranean lands will slowly acquire a Scandinavian climate. Northern Asia is, God be praised, very thinly inhabited and the people of the Canadian republic can crowd around the coastlines for a while."

The High Commissioner Chak moved his head impatiently.

"Oh yes, they can eke out an existence here and there no doubt. But this is not the really grave difficulty that menaces our planet — even us inhabitants of the torrid zone. The question of food has become so increasingly grave in the last century that we are genuinely alarmed. The northern hemisphere with all its population is slowly going to the dogs. The grain areas are not producing; the cries of distress constantly increase. Of course, we do what we can, but a few more crop failures in China, in India, in South America and our own country, and we will be faced by a really horrible catastrophe.

"I'm not giving away any state secrets, you understand, but you can be sure that the members of the International Food Commission which met in Madras left the hall feeling very despondent. Especially since the experiments in artificial food conducted by the South American Corella again resulted in utter failure.

"No, no. Believe me, things are much worse than we dare to tell the public, and the damned future looks anything but rosy. There may be a little silver lining in the cloud, however. You can put me down for a fool if you like, but I have always imagined that this condition would end as quickly as it began and that the good old sun would resume its duty.

"I'm only a statesman and don't understand all this scientific nonsense, but it seems to me that some day that damned cloud, or whatever it is, must end. The learned Rawlinson of the Cape Observatory has been totting up endless figures on the nebulous monster which has invaded our poor solar system, but who the devil believes anything these astronomers say? It might very well be altogether different from what he imagines—don't you think?"

On Historic Ground

VANDERSTRASSEN smiled. He was about to give a revealing and not encouraging reply to this tirade when a voice was heard from the other side of the ice-field.

Both men turned. Several hundred feet away from them a huge metallic projectile glittered amid the snow. Sharply silhouetted against the white, two men were standing beside it. One of them advanced toward the High Commissioner waving a sheet of paper in his hand.

"Hey! A message!"

The secretary approached. "Two calls, Your Excellency. One from home, from Zanzibar; the other from the president of the United States of Europe."

"Very good. Will you read them to us, please, Mr. Hamadan? Or are they important state secrets, not to be heard by the profane ears of our learned friend?"

"Nothing of special importance. Permit me: 'Zanzibar. Senate-office of the United States of Africa. June 10. Session of the Great Council called for June 15. Expect your return in time for meeting.' And here is the second message. 'To His Excellency Ismail Chak, the High Commissioner of the United States of Africa; now in Europe. Request the honor of a visit from you at your convenience.' Signed, 'Basinzani, President of the United States of Europe. Rome.'"

"Good! Is there nothing else, Mr. Hamadan? Well, now let's see how we can work this out. Gentlemen, come on back to the ship. We will have to consult the engineer in order to lay out our timetable."

The chubby little man strutted at the head of the party, gesticulating actively; like a curling-iron he skidded over the icy surface. His companions followed more slowly.

The sun was mirrored on the sides of the projectile, which gave a singular aspect of habitation to this remote spot amid the eternal ice of the northern edge of Norway. The projectile itself, which seemed to be the bullet of some titanic gun, was in reality a peaceful means of transportation —the stage-coach of the year 3000.

Projectiles and cannon were, thank God, no more, except amid the dusty halls of museums. They were exhibited side by side with six thousand year old Egyptian mummies, models of ships and locomotives of the nineteenth century, airplanes and antiquated telescopes, microscopes and the apparatus of the crude telegraphy and telephony of the twentieth and twenty-second centuries, reminding the beholder of ages long past.

And still it was not unlike a shell, propelled by an explosive which would have afforded a fiendish pleasure to those sons of an earlier age who had ruined half of Europe. Much the same type of explosive was used, to be sure, but no gun was necessary, as the steely projectile fired itself into space, being at the same time both gun and bullet.

Yes, here in the midst of old, ice-locked Europe, which had long since turned over its role of leadership to the other continents, was a masterpiece of the engineering of the third millennium. One had to admit that the Africans, in this respect, were far ahead of all other peoples. A millennium before, America had still been the land of grandiose technical accomplishment. Asia's peoples, led by Russia and Japan, had followed suit, ultimately dethroning the land of Columbus and bringing to fruition an entirely new type of science.

An altogether new spirit took hold of affairs, the soul of Asia spoke for the first time and spoke in an unfamiliar way, for America had always re-

mained a kind of overgrown Europe, discovered and settled by Europeans. The Asiastic's genius did not run toward the gigantic. He was of a land of philosophers, of brilliant chemists and physicists, but not of surpassing mechanical technique. At least it was not the land of the gigantic engineering works for which our own planet was all too small, and which could have attained their fullest development only on the titan, Jupiter.

Far otherwise with the Africans of the year 3000.

This people rendered the impossible possible. The utilization of solar heat, which had attained a high level of perfection in America, seemed to them too unimportant a matter to deserve attention. They had harnessed the eternal wave-beat of the ocean, with its millions of horse-power, to their machines, and while the Asiatics saw, listened and photographed for thousands of miles with their wonderful instruments and the Indian physicians succeeded in actually reviving the dead when no important organs were destroyed, the Africans drew new marvels from the earth itself, using the fiery streams from the very bowels of the planet to bring to light new substances of which the old world had not even a conception.

Through their investigations into the chemical substances of the deeper layers, they had discovered almost by chance the explosive which concentrated such incredible power in so small a volume. This *Usambaranite* was used in the new method of transportation, by which people shot themselves from country to country—for this method of travel by rocket could be described in no other way.

The old artillerists had had many unpleasant encounters with the principle of recoil which threw their guns backward at the moment of discharge. The enormous power of *Usambaranite* would simply have heaved those old guns from their foundations. But now the vice of recoil was changed into a virtue.

The new explosive was used, not to fire the projectile, but the gun itself, and was kept firing in such a manner that the gun raced through space at ever-increasing speed, driven by the rapidly-succeeding recoil impulses. The whole trick consisted in making the gun into a flying-machine — so that it held passengers — and in providing means for directing its course.

The old-fashioned propeller, which had pulled airplanes through the ocean of the skies, had been abolished, but the wings could not be spared. On the sides of this projectile the wide-spread steel wings shimmered in the sun like the wings of a bee.

DIFFICULT experiments, hardy less horrible in result than the battlefields of bygone days, had brought the device to such a state of perfection that it had become a dependable means of transportation. The aircraft lying here among the glaciers of Norway had, within 17 hours, come from Zanzibar, south of the Equator, to the last icy outposts of Northern Europe, a distance of more than 5000 miles. Of course, Standerton-Quil, one of the most adroit engineers in the government service, had personally piloted the vehicle.

He stood there now, hands buried in trouser pockets, staring at the miserable ice desert before him with an expression of annoyance. Why, there was not a single piece of machinery here to offer intellectual exercise to a man! With an air of contempt, he spat into the snow, and for the fortieth time delivered a brief lecture on the lubrication system of the ignition apparatus to his mechanic.

"Here we are again, Standerton-Quil! What do you think of all this ice around here?"

He shrugged. "I have no use for it, Commissioner. Positively no use whatever."

"But please, my dear fellow," said Ismail Chak with a laugh that was almost annoyed. "You are standing on historic ground. Here, beneath your feet, were, once upon a time, great cities. Here lived the people who discovered America. It was the home of the man who discovered the South Pole, approximately two thousand years after Christ. Here was born the man who first displayed the flag on the North Pole. Is it not really tragic that the homeland of these people who penetrated to the center of this empire of crystalline wonders is now itself buried under ice and snow; that here the extinct Eskimos are being, in a sense of the word, brought to life again?"

""Give it up, Commissioner," said Hamadan, the secretary, with a smile. "This Standerton-Quil is the most unhistorical being under the sun. His brain is a collection of algebraic formulae, his heart an *Usambaranite* motor, his thoughts are directed entirely along a chain of technical concepts, levers, cranks, axles, wheels, and he moves in terms of wave-power stations and earth-boring plants. Already we have made no end of futile efforts to make him realize the tragedy of the northern hemisphere."

"What do you want, gentlemen? To me the whole thing is a technical problem. You see, this earth is an apple inhabited by bacteria. It is being heated and illuminated by a great electric bulb. The whole business happened to get mixed up with a cloud of dust so that the apple no longer receives sufficient heat and the bacteria on its coldest areas are no longer able to sustain life, can no longer find nourishment since the northern and southern regions of the apple have been covered with frost. It's a most simple affair. There isn't a trace of complexity or romance about it.

"The only question is how we can manage to get the bulb and the apple out of the damned cloud or else provide nourishment and shelter for the bacteria of the north and south somewhere else. It seems to me these are technical problems and I am interested in the whole thing from this point of view alone. One must not lose sight of the general idea."

"Right you are, my dear Standerton-Quil," replied Ismail Chak, making a futile effort to clap the engineer, who surmounted him by three feet, on the shoulder. "You see the matter from the correct viewpoint. We poor devils have only the trivial, but unavoidable mission of providing food for those millions of bacteria. No engineer on earth, with all his levers and wheels can help us out of this pinch as long as his machines will not produce grain and meat. But should you succeed in blowing away the dust-cloud which has blanketed the heat-providing bulb and is keeping out the heat rays, you would be the greatest man in the world

and the hero of the nation. You could be certain of the next presidency."

Standerton smiled and then replied:

"When one thinks that this planet contains in its depths such enormous reserves of heat, lying idle there, and that that it is only a question of conducting these streams of heat up to the polar regions of the earth, it appears not entirely beyond the imagination to bring about the impossible. You know that our earth, in long past ages, was a little sun, a lava-ball, which cooled off and wrapped itself in a blanket of stone, while the interior heat has been preserved almost unchanged down to our own time. How thick is this earth crust which partitions us from the eternal fire? Vanderstrassen, who is an expert, will confirm the fact that this crust is not proportionately thicker than an eggshell. Am I not right, Vanderstrassen?"

"On the whole, you are perfectly correct, Standerton. Let's see, every forty meters we penetrate into the earth brings up the temperature by one degree, Centigrade. At a depth of forty kilometers the heat would therefore be as high as 1000 degrees, at a depth of 200 kilometers all geological formations would be in a viscous state if the immense pressure of the layers above did not prevent it; and in spite of the intense heat at the center of the earth the mass must be more dense than steel since approximately 2,000,000 kilograms are pressing on each square centimeter, and thus keeping together those substances which the heat would otherwise disintegrate as gases."

"Ah, yes, and a traveller who could proceed vertically toward the center of the earth would, at the end of eight hours march, reach a point where the temperature is a thousand degrees. Damned if we wouldn't use such temperatures somehow. You know that we are about to use some of the heat from the more lofty volcanoes industrially, and I tell you it would be possible, with some ingenuity, to penetrate even deeper than we do now—even if we have to blast half the earth away with a charge of *Usambaranite*."

CHAPTER II.

A Desolate World

STANDERTON-QUIL shook his fist against the impassive sky and beat the ice with his huge boots, as though he were trying to open a canal for the latent heat of mother earth at a single effort.

Ismail Chak laughed at the engineer's impotent rage and his companions joined him gaily.

"This man would have the nerve to blast us off to the moon with his *Usambaranite*," said the High Commissioner, and such a comical expression of mock horror appeared on his features that even the irritated engineer could not help but join in the general merriment.

"Well, we'll see," said he, "everyone has his ideas and this is mine."

"Good luck! But now gentlemen, we must outline our journey. Let's spend the rest of the day till nightfall in getting acquainted with this region from a greater altitude. By sundown I would like to leave this land of misery behind me, and you too, I imagine, are quite keen on returning to civilization. It would seem a good idea to head for the Nice airport, so that we can make Rome tomorrow to accept the invitation of His Excellency, the President of the United States of Europe. Day after tomorrow I intend being back in Zanzibar. We can make it by evening if our friend Standerton doesn't lie down on the job."

"I guarantee a speed of 500 kilometers on the way back. Within six hours we will be at Nice; in ten we can cover the distance from Rome to the Equator, and two hours more will bring us over the searchlights of the airport of Bagamojo."

The engineer buried his measuring-wheel in his coat pocket and folded the map.

"Let's go, then, gentlemen. There'll be plenty of time for a bite and a nap during the journey."

The projectile consisted of three parts. In front was the bridge with the control apparatus for altitude and speed as well as the steering-gear which required special attention. Huge compasses and marvellous transparent maps of the region to be traversed which unrolled themselves automatically, facilitated the task of the quartermaster.

At the tail of the vehicle, in the fan-shaped base, was the mechanic whose duty it was to watch the correct functioning of the *Usambaranite* motors which pushed the successive charges into the combustion chambers. This portion of the vessel had to withstand enormous heat; a labor which could be performed adequately only by platinum. A thoroughly ingenious cooling system, utilizing liquid helium, the temperature of which approaches 268 degrees, cared for the preservation of this most important portion of the machinery.

The central compartment was reserved for the use of the passengers, and was provided with deeply-cushioned seats anchored solidly to the floor. They were ranged around a big table and in them the travellers were sure of being protected from the none-too-gentle shocks of the travelling projectile as long as they were careful to remain in their places. Some comfort had, of course, to be sacrificed in view of the immense speed which in a few hours carried the travellers distances which in former days could only have been covered after many days' journey by ship and railroad.

Ismail Chak, ridding himself of his thick furs, oozed plumply through the narrow entrance, with his companions following. The mechanic screwed in place the thick headlights over the windows, bolted the door, and disappeared into his sanctum. The low hum of the automatic combustion chambers soon made itself audible.

For a few moments the head of Standerton-Quil was visible at one of the windows of the control chamber. His energetic face bore a melancholy smile as he watched the sparks from his cigarette trail down across the snowy plain, as there now lay before him long hours of deprivation from his only pleasure, that he might direct this huge tin-can over continents and oceans.

Now his head disappeared into the round porthole. The window snapped shut; the bolt crashed into place. The engineer tested his speedometer, adjusted compass and map, gave his control devices a rapid inspection and pushed the "Attention" signal. A melodious whistling, not unlike the call

of the curlew, which, once heard, is unforgettable, sounded through the chambers of the big vehicle. The passengers took their places, pushing their legs into the bracing-cushions. The mechanic secured himself in his cushion-lined seat. The alarm-whistle ceased.

The red signal of the engine-room telegraph lit up; the mechanic pulled a lever and the first *usambaranite* charge was ignited in the combustion chamber. A sharp report; a heavy shock and the discharged gases pushed against the basal piece of the projectile which trembled slightly with the shock. Shot followed shot in a drumfire of explosions and the projectile moved obliquely upward into space, swaying from side to side as the power increased.

The horses of the police detachment shied irritably on the snow-field below. By the time they had been quieted, the strange vehicle had already passed beyond their vision. Standerton-Quil directed the flight with consummate skill. Once in motion the vehicle proceeded smoothly and quietly; it had only the air resistance to overcome. Yellow and green signal lights alternately flashed on and off in the engine compartment as Standerton-Quil ordered explosions in the right and then the left chamber to give the flying car a turn to this side or that, making the task of steering easier.

THE speedometer climbed from 50 to 100, from 200 to 300 and finally up to 500 kilometers an hour. The compass showed a nor'-northwest course; the barometer registered an altitude of 3200 meters. Slowly the wonderful transparent map rolled off, a wide celluloid band, the result of the international photo-surveys extended over the whole surface of the earth during the last decades. An index, indicating the location of the projectile at the moment, slowly slid across the map. A thin pen at the bottom traced out the route in all its convolutions with a thread of ink. Losing one's way was a practical impossibility with such apparatus.

Here, amidst the instruments which were the sense-organs of this apparently ungainly vehicle as it raced over the earth, the strange man was in his element. Here he found the satisfaction of the artist in handling the ingenious mechanism of this newest and fastest of rocket-cars — principally of his own design.

Meanwhile, Mamadan, the secretary, was sending wireless messages from the desk of the passenger cabin to Zanzibar and Rome, notifying the Nice airport of the impending arrival of the government rocket-car during the late hours of the evening. He could have communicated with all these places by direct word of mouth from the speeding vessel had it not been for the disturbing noise of the explosions—a hindrance to free communication which had not yet been dealt with.

"Perhaps I'm too old," said the High Commissioner, settling back in the upholstery, "but I must say that I never do feel quite at home in this tin-can. For Heaven's sake, don't tell that to Standerton-Quil, but I can't help comparing myself to a sardine, and one can only stand the starting motion if one packs all one's vital organs into a single parcel and checks it with the mechanic.

"How that man stands it in the engine-room is a mystery to me. Really travelling was far more comfortable in my salad days. There's nothing like the old airplanes with their buzzing propellers. You may laugh, and you may think me dated, but I like to remember the good old days with their three hundred kilometer-an-hour *Kondor* airplanes. The modern urge for speed has got hold of all of you; think of the people of the earlier centuries who had to put up with the slow railroads and be glad if they cover a hundred kilometers an hour."

"I don't feel so well myself in this *usambaranite* vehicle, Commissioner," said the geologist Vanderstrassen with a smile, "but it is not so much the speed and the constant shocks as the thought that one is flying, so to speak, inside a combustion chamber, the power of which is so gigantic that any accident would be enough to resolve us into our component atoms and scatter the atoms all through interplanetary space."

"Not a very pleasant thought, doctor, yet when one looks on the iron face of Standerton through this little window, and watches his calm and accurate movements which never seem to err by a millimeter or a fraction of a second, one regains a certain measure of assurance."

"Over there, gentlemen," exclaimed Hamadan, and pointed with his finger toward the inch-thick plate glass of the porthole.

Beneath them was the frozen ocean covered with little ice-hummocks, bordered in the distance by a silvery mountain-chain that sparkled in the sunlight like a huge diamond.

"The Greenland coast," said the geologist, "from which the mighty glaciers force their way across the oceans toward Europe and North America. There lies the cradle of the big icebergs which are now coming as far south as the Equator to break on the coasts of Africa and bring down to us some of the chill of the Arctic."

"I'm only surprised that it is not much colder up here in these latitudes. I imagined one's breath would freeze at one's mouth. And yet it really wasn't so terribly cold down there on the ice-pack. I think we all have mistaken notions about the ice-age, that is, those of us who are not experts like you, Mr. Vanderstrassen."

"Yes, it's a general and mistaken conception, Commissioner, to assume that only a perfectly fabulous cold snap could cause such an extension of the ice-cap. Very careful measurements of temperature, kept on record for thousands of years, indicate that the average temperature of Europe has only decreased by a few degrees. In earlier ages it was about 13 degrees plus, and remained unchanged at that figure for many centuries, and has now come down only to eight degrees. This doesn't look like much of a drop, and anyone who deals only superficially with the manifestations and effects of such a decrease in temperature finds it difficult to understand why it should lead to the ice covering great parts of our continents.

"But you don't want to forget that time is the chief factor in this game. Rain and snow have increased considerably in the north of the globe as well as in the south, mainly because of the existence of finely-divided dust in the atmosphere. This dust has its origin in the cosmic cloud into which

our entire solar system has plunged. The rays of the sun have been so interrupted by this dust-cloud that the temperature has been on the decrease for decades. The result is those masses of ice which, formed in the Arctic during the winter, cannot be melted during the summer. Our winters have been prolonged, so to speak, the ice increases daily, and since it cannot grow into the skies, its forces its way farther south across land and sea.

"Thus the Arctic is reaching its deadly icy arms farther and farther toward the Equator. From Greenland, from Norway, from the Arctic Sea, the white death is sweeping down upon us; the oceans of the north are covered with ice and the winds that have their origin there have acquired increased refrigerating capacity, and have drawn Europe, northern Asia and North America into the Arctic zone. It is really a very simple matter."

"A hell of an outlook," said the High Commissioner, looking with a sigh at the crystalline fields below, against whose icy breath all the wonderful inventions of modern humanity were powerless.

"It's not the first time earth has had to face such a situation," opined Vanderstrassen. "About forty thousand years ago the same sort of thing occurred; our ancestors have conducted careful investigations on the glacial periods. In those days the glaciers reached the foothills of the Alps. It was during the period while man, still half-animal, chased his dinner with a stone axe and dwelt in a cave.

"The man of prehistoric time was contemporary with that glacial epoch, in short. And not even that was the earth's first encounter with ice; traces in the geological formations, the shorthand notes Earth has made in her diary, tell us that millions of years earlier, after a tropical era throughout the world, when even the Arctic bloomed with wide forests, there occurred, with considerable suddenness, a cold period with its ensuing ice-caps. For thousands of years our archaeologists have faced this inexplicable mystery, and we are the generation to see with our own eyes such a period of illness on the part of Mother Earth and to learn that a cloud of dust in space is at the bottom of the trouble."

"Your disquisition is extremely useful, Vanderstrassen. I believe this is the first time I have had things placed in their true perspective, in spite of the amount I have read about them. Our flight over this region helps one to conceive it more vividly."

THE rocket-car had long since changed its course and was now heading south. In a sweeping curve it bore back to the mountain chains of Norway. Below them lay land, buried beneath hundreds of meters of ice. As far as the Gulf of Bothnia, the white tongues of the glaciers licked out. Beyond, in the direction of the Atlantic, the icy arms broke in the rocky fjords, falling into the ocean in the form of bergs which ground amid the pack-ice that covered the whole ocean and heaved with the ground-swell. The country lay dead and deserted. Farther south white plains of snow gleamed in the light; pack-ice and bergs drifted across the North Sea.

The green starboard signal-light blinked in the engine-room. Standerton-Quil was demanding increased explosions in the right chamber to make a turn. A handful of little white clouds went past the window with lightning speed; a slight trembling of the racing machine and the projectile swung slowly toward the southeast. A wide river became visible along the line of their flight.

"The Rhine," said Vanderstrassen, bending over his map, "the classic land of glacial research lies beneath us—Germany."

"She seems to have been spared the disaster of a coat of ice so far."

"Correct. But over all her vast flatlands the slowly-moving streams of the Norwegian glaciers will force their way as they did forty thousand years ago. The last ice-age produced these wide loamy plains interspersed with blocks of granite. The glaciers brought those rocks down here from Scandinavia, and ground the other material up to form the fine sand which now covers the plains of Germany, and in a few countries they will again overwhelm the whole country. The archaeologists of millenia to come will excavate the great buried cities and find a thousand and one testimonials to the culture of this land when the earth again enters a warm period.

"Our race has found only primitive hatchets and arrowheads and the almost beast-like skulls of the mammoth, cave-bear and reindeer; and the highest creations they have discovered are crude drawings of animals scratched on the walls of the caves. It will be left to a future generation to bring to light, after the approaching ice-age, the great technical achievements and cosmopolitan cities of the modern period."

"You are looking through blue glasses, my dear Vanderstrassen, and there is a certain touch of the gruesome in your predictions."

"Yes, Commissioner, Nature is cruel. At least she appears so to us humans. She goes her way unconcerned; cause and effect are her sole rules of conduct, and she buries cultures as some gigantic foot would crush an ant-hill."

Enveloped in strange ruddy trailers of cloud the sun was sinking in the west. In the south the icy peaks of the Alps caught the last rays of the departing day, and the earth was covering itself with a mantle of blue and violet; but in the zenith hung a strange purplish gleam amid which queer little green clouds floated, such as had never, or at least very seldom, been seen by mean of the earlier days. Only when mighty volcanoes had thrown enormous masses of ash into the atmosphere had such phenomena been visible. The cause of this singular coloration was the cosmic dust which had penetrated the atmosphere, producing deflections and reflections of the last rays of the sun that swept mysterious rings and rays through the erstwhile blue of the ether.

The rocket-car was circling westwards around the Alpine massif, gliding over the pallid surface of Lake Constance amid a drumfire of explosions.

The travellers grew silent; each following his individual train of thought. Slowly the purple gleam turned pale, snapping auroral rays reached like gigantic arms across the skies; here and there a star glittered brightly and presently the moon rose

in a torrent of blood-red around which played a wreath of green rays.

Standerton-Quil recognized the flaming lights of the Nice airport in the distance. He was now firing a series of brilliant rockets that scattered away behind into thousands of starlets. The airport replied with green and red flares. The official vehicle of the United States of Africa had been sighted. Ten minutes later it lay still in the wide hangars on the Mediterranean shore.

CHAPTER III.

A Sensational Story

BENJAMIN GRAACHTEN, the famous journalist, editor of the *African Herald*, ran both his hands through the grey crown of hair which surrounded his bald head, as a little forest surrounds a still lake.

At the moment he looked inconceivably comic, for the disordered locks resembled an accumulation of question-marks, standing up from the level of his skull. His sub-editors called him "the Marabou," and that nickname had gained currency through all South Africa, but was best known in Cape Town, where the huge office of the *African Herald* occupied an entire block, with its editorial offices, wireless stations, telephotograph studios, its extensive composing rooms and printing plants.

"For Heaven's sake! Old man, this won't work. You mustn't forget that the *African Herald* is and must remain the liveliest newspaper south of the Equator. To hell with such stodgy stuff. First of all, put that manifesto from the President of the United States of Europe to the peoples of the earth on the front page; and put with it that report on Ismail Chak's trip to the ice region. By all means don't forget to throw in a few of the pictures taken from the rocket-car during the journey —in their natural colors. That one—let's see—put it about here; and the pictures here; and then a leader on the significance of the problems which will be discussed in the extraordinary session of the Senate of Africa at Zanzibar; next Ismail Chak's interview with the President of Europe.

"Frarelli has just sent it from Genoa by telautograph. Put the pictures of the arrival of the vehicle in Rome in here, and drop in the picture of the reception of His Excellency by President Basinzani at the Government Palace. Some good telepictures got here an hour ago. So much for this—lay out the rest of that junk any way you like."

"Isn't it a little late to tear the paper apart like that?"

"Well, what are you here for?"

"It will be hardly possible to get the colored pictures into the early edition."

"Jump in and do it anyway. Go ahead and work it out."

And now it was the unfortunate city editor's turn to run both hands through his hair. He snatched up the papers and turned worriedly toward the door.

Benjamin Graachten, "the Marabou", laughed cheerfully.

"Come on, Sobel, smoke one of these wonderful cigarettes, and all your sorrows will dissolve into blue rings. I know you. Down inside you are wishing this damn' Marabou in hell, but you'll get it done in spite of that."

The two men lighted their cigarettes and parted with a handshake of mutual congratulation.

Graachten was about to put in a call to his correspondent in Calcutta when a green light appeared in the wall of his office. An orifice of three or four inches across surrounded by a rim of bronze, appeared in the wall, the loud-speaking telephone.

"Proceed!" said the editor-in-chief of the *African Herald*, somewhat reluctant to be disturbed.

The voice of the invisible interlocutor sounded through the room, loud and clear:

"Mr. Wanjansa wants to speak to you."

"Busy."

"Just a few minutes."

"Not one."

"It's important."

"Tell Wanjansa that he will see me for the last time in his life if he's lying. Let him in."

A few minutes later the door swung open and Wanjansa, a veritable giant in stature, dressed in impeccable taste, entered the room. An accomplished journalist and an authority on sports, Wanjansa was a not-unimportant member of the *African Herald's* staff. But Benjamin Graachten left it to his department men to deal with problems that were not of the first importance. Furthermore he did not like the man any too well.

Wanjansa could not deny his Basuto blood; the blood of a race long at enmity with the Dutch. Though civilization had long since bridged those gaps and these natives had been incorporated into the great family of the African nation as civilized and in many cases, highly educated individuals, aversions and preferences of ancient origin continued to manifest themselves here and there.

"Good morning, sir."

"Good morning, Mr. Wanjansa. I have two minutes for you. Blaze away."

"Do you know Johannes Baumgart?"

"No."

"The man is a German."

"I should hardly have taken him for a Chinaman, with that name. Twenty-five seconds. Go on."

"He arrived here three days ago."

"Of extraordinary interest to me. It probably became too cold for him in his own country."

"A distinguished scientist."

"You don't say! Forty seconds. Go on."

"He wants to fly to the moon."

"Bon voyage."

"And he will make it."

"Probably as surely as the Frenchman Bourquin, who undertook the same job in 2760, to see with his own eyes what his compatriot Jules Verne had visualized in his famous novels. You know that his vehicle crashed into the Atlantic from an altitude of eighty kilometers and no trace of him was ever found."

"I AM sure that you look at the matter from the wrong point of view, Mr. Graachten. The fact that your sporting editor comes to you with this news, which is still exclusive, tempts you to assume that it is a foolhardy sports stunt. Had

a scientist brought you the news you would have looked at it differently. This Mr. Baumgart knows very well what he is going. He is a quiet, serious scientist, and the basis of his undertaking is a carefully thought-out theory. He wishes to interest the government."

"Where the devil did you get this gammon?"

"I overheard it unintentionally. Listen—yesterday I visited the manager of the Usambaranite Works to discuss a *usambaranite*-drive auto racer. He had a visitor. I remained in the ante-chamber. Through an oversight at the switchboard the connection between the office of the manager and the ante-chamber was kept in and the loud-speaking phone gave me, very distinctly, the entire conversation that took place between the two. Therefore if you're going to use this story the source ought to be kept quiet."

"You heard that yesterday. Why the devil didn't you jump to me right then?"

"An unavoidable trip to Johannesburg prevented it, but since no one else knows about it, the news is just as hot now as it was then."

"Well—there might be something in it."

"Thank God. At last you're coming off your perch."

The archaeologists of millennia to come will excavate the great buried cities and find a thousand and one testimonials of the culture of this land.

(Illustration by Paul)

"But tell me—what does this Baumgart want to do on the moon? That is, if he gets there, which I doubt."

"He is undertaking this dangerous experiment in the interest of humanity, and the approaching ice-age is his incentive."

"But what has the moon got to do with the ice-age and humanity? I don't understand."

"This Baumgart expects to get some information from the moon on how to solve our earthly problem."

"But, by the Holy Chinchinchindra of Calcutta, there are no people on the moon, and the whole place is as dead and stiff as so much plaster. Who's going to give him any information there?"

"The people of the moon."

"Then he's a fool. There aren't any people."

"But wait, Mr. Graachten; it is from the remains of the extinct moon-people that he expects to get the information.

"It's getting more and more mixed up."

"This man Baumgart, being a first-class astronomer, makes the statement; and it is impossible for us, as mere laymen, to give an accurate opinion of the value or uselessness of his plans, my dear editor."

"You are right at that, Wanjansa. And anyhow, the affair has its importance."

"The two minutes are up, Mr. Graachten."

"Wait. Stick around for a minute—and thanks for the tip. But let's go on. What does this German explorer expect to find on the moon, which has been dead for millions of years as everybody knows?"

"He is of the opinion that this satellite of ours was formerly inhabited by beings similar to us, and that the last generation of the moon-people passed out of existence during just such an ice-age as ours. But since the Lunarites had a much older civilization behind them than we, he assumes that they had found a means of sustaining life in spite of the cold, when some greater catastrophe overwhelmed their home, making it a graveyard forever."

"And this man will succeed in finding out the experience of the Lunarites with a slowly-cooling world and make use of them for our benefit, I take it?"

"Just so."

"Not a bad idea, Wanjansa."

"I quite agree, Mr. Graachten."

"The only thing that isn't clear to me is why our giant telescopes cannot detect a trace of human activity, past or present, on the moon."

"Baumgart voiced his opinion on this point also, but in the midst of what he was saying on the subject the phone suddenly began crackling and then went dead. The faulty connection must have been discovered and set to rights; at any rate I didn't hear another word. I slipped away without being seen, and rushed to you to tell you about it."

"Which was very sensible of you. I see now that you will be useful for other things than reporting sports events, and you may be sure I'll remember it."

Mr. Wanjansa, flattered, bowed. Praised from the mouth of Benjamin Graachten was a rarity of high order, for the old "Marabou" avoided any marks of appreciation so far as possible. It made people slow on their feet, he used to say.

"You are sure that beside yourself and the manager of the Usambaranite Works nobody overheard the conversation?"

"Quite sure."

"I hope they will be discreet about it."

"At the beginning of the conversation the visitor asked the manager to regard the whole business as confidential, saying that he had only come to get information about the practicability of using *usambaranite* in connection with a new kind of rocket—this being the only means he considered good enough for a flight to the moon."

"SPLENDID! But do you know what gives me the greatest kick? The thought of the astonished faces of the two gentlemen when they see the entire plan discussed in the second morning edition of the *Herald;* of course, without mentioning any names. The walls always have ears in our business but that our walls should overhear the walls of the far-away Usambaranite Works will strike those people as something spooky. It certainly is a masterpiece of modern reporting. You will keep quiet?"

"That goes without saying."

"Now let's get busy, my dear Wanjansa. Snap into it; put everything you have told me into an exciting, smooth-reading news story. Your lead will be something about the salvation of mankind—help from the outside universe—a bold plan to cope with the dangers menacing the earth from the north."

"Good!"

"By tomorrow noon I'll have a detailed interview with Rawlinson, the director of the Cape Town Observatory as a follow-up. He'll give us the pros and cons of the business."

"Do you want me to go see Rawlinson?"

"He would refuse to see you and a thousand others, Wanjansa. I must go in person and right now, in the middle of the night. He won't let me down, as I'm the man who has blown his trumpet all through the world. Our paper has always been on his side in his controversies with scientific opponents, and he's not the man to forget it."

"Very well, then. I'll get to work at once; you'll have your story by three o'clock."

"Good! One more thing—try to get hold of your man, that interesting German, first thing in the morning, by all means. Stick on the tails of the immigration authorities, lay siege to the Usambaranite Works, hop to it for all you're worth, try the German club and tell your man that the *African Herald* wants to lend him a hand in pushing this thing, and has an army of three million readers behind it. But be sure that all his plans, publications, experiences are sold to us exclusively. Tell him the first wireless dispatch from the moon will appear in red ink on the front page of the *African Herald.* Come on, let's go—you can arrange everything with Sobel, and I'll leave immediately for Zanzibar."

Wanjansa took up his hat, a grin of pleasure spreading across his broad negroid features. At last he was hitting it off with the most powerful newspaperman in the world. He squeezed the extended hand with cordiality and stepped out of Benjamin Graachten's office. He was whistling a gay air to himself as the elevator carried him down.

* * * *

"Our conversation has been somewhat lengthy, Mr. Baumgart," said Edward Hawthorn, the man-

ager of the Usambaranite Works, with a glance at the clock. "I can only say that your project interests me in the highest degree, though a man in my position has some very bold and extraordinary plans submitted to him. You are a stranger here, it's already late, and I hope it will be agreeable to you if I ask you to be my guest for the rest of the evening and for the night. Before you could get back to your hotel your dinner will be already on the table, and we will have an opportunity for a little chat after eating. It will be no trouble at all, as there are always a couple of guest-rooms ready because I receive so many out-of-town visitors."

Johannes Baumgart looked up at the old-young man before him with his strangely serious eyes, in which there was always a touch of the otherworldly.

"I thank you," said he, in the peculiar, low-pitched voice, which gave so soft an accent to his words, "I thank you very much."

Nothing about this man would have given either a psychologist or physiognomist the impression that he could entertain bold and sweeping plans. There was no sign in him of designs to stir humanity. It was a slender, almost graceful figure that sat in Edward Hawthorn's office; there was no suggestion of the iron energy that was the distinguishing characteristic of the African people of the year 3000. His face was lean and pale, and a stubborn lock of his dark hair tumbled about his high forehead to be returned to its place from time to time by a long, thin hand. The dark eyes were pensive, almost drowsy, behind unrimmed glasses; and all his movements were calm—almost impersonal.

In conversation he frequently gave the impression of not having heard; nothing in his impassive features betrayed excitement or interest, and the eyes looked past one as though their owner were far away, thinking of things beyond the normal ken.

Suddenly he would interject into a conversation a question or remark which went to the heart of the problem under discussion, and thus surprise his vis-a-vis who was generally convinced that he had not been paying attention.

He made a singular impression on women. He had buried himself for ten years in a little country cottage on the outskirts of the Black Forest—an inheritance from his mother. Here, amid the rustling trees, he had dwelt among his books and instruments, a perfect hermit, while brightly-colored streams of life flowed past his door. The world and its ways were strange to this savant of barely thirty-two. No woman had ever played an important role in his life—or any role, for that matter, and he became embarrassed and fell into silence in the presence of one.

No wonder, then, that women accustomed to pleasant badinage from the conversationalists who played among the parlors thought him reserved and old-fashioned. Yet there was something about him that attracted them; for in spite of his youth he had become a celebrity as the result of his labors of the last ten years. The childlike element in his nature, his timidity, his tender, almost boyish face with its dreaming eyes, made him altogether different from those accomplished cavaliers who so elegantly stroked their beards, who smiled at the right moment, and knew how to say pleasant nothings, but who had nothing else to offer.

They tried to drag him into society, but he begged to be excused, remained among his solitudes, and only rarely would a new and brilliant book afford testimony to his continued existence. His great work, "The Universal Law of Life and Death" had stirred the scientific world; had raised passionate debate pro and con, but its author remained silent amid the exploding newspaper paragraphs.

In this many-volumed work he demonstrated that everything in the universe, plants and animals, suns and worlds, peoples and cultures, obeyed an inescapable law—the law of life and death. He proved how, in accordance with this rule, the sun in the universe and a tiny flower of the fields were akin, and told why this was necessarily true. He went on to the proof that on all stars evolution must follow the same path, that on every one life has appeared and some type of humanity has been the apogee of life.

Peoples, states, cultures and their attached religions, arts, sciences and morals, flourish and die like flowers, here and on other planets where, perhaps higher forms of life had been attained. All this was proved up to the hilt.

"We must," he concluded, "utilize the experience of other worlds as soon as our technical progress permits us to adventure into space—not for the purpose of making a fantastic interplanetary journey, but in obedience to a great law of evolution. Once every village was a unit. Later, villages formed into states, learning gradually how to aggregate entire continents under a single government. Today we are at the point of making the entire earth a single nation, the monster-state 'Earth'. The coming century will see these ideals realized; the ground for the achievement is even now being broken.

"The day will come when we will have a range of vision beyond anything the present affords us. Did not people once think in terms of the tribe as a unit, then in counties, states, finally in continents, and in the future will not all the powers of this planet be eclipsed in a single central power, and will we not think in terms of planets? . . . ."

CHAPTER IV.

A Meeting

SUCH was the man Johannes Baumgart; such was his work and his viewpoint on the universe. His modest, almost timid nature stood in profound contrast to his abundant knowledge, the tremendous sweep of his thoughts and plans, and yet these two contrasting elements of his character had a common basis—the kindness and humanity which caused him to use his treasure-trove of knowledge in the service of mankind, now drifting toward the most terrible of catastrophes . . . .

Now he was walking at Edward Hawthorn's side down the short lane which connected the office building of the explosive factory and the home of the manager. A moment later they were entering a stately but not pretentious dwelling, attractively situated amidst a grove of ancient trees.

"Mr. Baumgart will be my guest for tonight," Edward Hawthorn informed his butler. "Will you show him to one of the guest rooms?" and to the German, "Excuse me a few moments, Mr. Baumgart. In ten minutes I will meet you and my daughter in the dining room. Our excellent Brown will see to anything you want."

Baumgart followed the butler up the stairs.

As they passed along one of the wide halls where the sound of their feet was drowned in the carpets, the voice of a singer became audible from one of the adjacent rooms. The air was being carried in a first-rate soprano voice. Baumgart began to hum a low accompaniment.

The sound had come from the room of Hawthorn's only daughter. Elizabeth lay in the darkness of a soft divan, enjoying the wonderful aria of Zadika from the new opera "The Dead Forest" by Ibn Ben-Harsah, a favorite composer of the day, which was being transmitted through the operaphone.

Suhalma Mirr-Edin was singing like an angel tonight, and fluttering across the scene like some elfin being. A circular mirror—or rather a screen resembling a mirror—a little more than three feet in diameter, hung in a niche on a dark pillar in the plant-filled room. All the gay, lively scenery of the grand opera house at Cape Town, the most important commercial point of the African south, was reproduced in this screen, while the loud-speaking telephone repeated, with the utmost fidelity the songs of the performers and the music of the orchestra. The screen showed the scene in charming reduction, giving all the happenings of the stage in their true lighting and color.

Mirr-Edin was leaving the stage, disappearing like a gay butterfly into the green leaf-roof of the mimic forest, amid roars of applause from the audience. A knock at the door was heard. "Come in, please."

Her father's head appeared in the aperture.

"Ah! A feast of music. Wasn't that Suhalma Mirr-Edin in the butterfly aria? It was quite clear even outside. But come along to dinner, daughter. I've brought a guest with me."

"Oh, you best of all fathers! Isn't it a shame that I'll have to lose you for the evening and listen to endless technical discussions and the thousand and one terms of some stupid contract? You know how much I dislike that kind of thing, and you solemnly promised that you would spare me any more such affairs."

"Quite right, little dreamer, but I only want to drag from your hermitage because this time it's something different. This gentleman is a really interesting person. He's a German scientist, with whom I spent some of the most stimulating hours of my life this afternoon. He hasn't a word to say about inventions or machines, boring tools or airplanes, but he has a really fabulous knowledge about all sorts of things and is cooking up the most wonderful plan you ever heard of. In a few weeks he'll be the best-known man in the world, and on top of all that he has a remarkable agreeable personality. At times he's as timid as a girl."

"Still young?"

"Eve's daughter getting curious, eh? No—old as Methusaleh; nearly seventy. All your amorous tricks will be wasted."

"Oh, what a malicious mind you have. However, I shall come."

The grey head with its fine beard disappeared laughingly from the doorway. Edward Hawthorn went toward the dining room. Baumgart rose as he entered.

"You are here already? Good—let's sit down to the table. Dinner will be served immediately, and my daughter will be here any moment."

"I hope I have not disturbed Miss Hawthorn? There is nothing I dislike more than robbing a fellow person of comfort in his own home."

"We lead a very quiet life here, Mr. Baumgart, and in this respect we are very unmodern people. She is my only child. Two years ago I lost my wife in an accident—the best wife and mother a home ever saw—and neither my daughter nor I have ever really gotten over it. We spend most of our evenings at home, and are ardent devotees of the operaphone, though some evenings we read to each other, and a game of color-tone kaleidoscope sometimes helps us in whiling away the hours. My daughter shows no interest at all in business matters, nor does she find the technical discussions I sometimes have to conduct with my guests amusing. That's what makes me certain she will enjoy listening to the ideas of a philosopher like you for a change."

"I'm a poor conversationalist, Mr. Hawthorn; I run heavily to monosyllables. I am a sworn enemy of the type of persiflage that passes for conversation in salons, as it is, at least in my country, not very different from dressing up on such occasions—or perhaps I should liken it to the use of jewelry among ladies. It is a kind of mental show-window decorating. It seldom goes any deeper than that, and I think it's rare to find either knowledge or ability behind such verbal fireworks. Company becomes flat when it is not reduced to a small and well-chosen circle. That is why I am a pre-eminently unsociable man."

"We take a similar attitude, and my wife's point of view, which my daughter has inherited, was the same. It seems to be at the bottom of the German temperament, because—"

AT this moment Elizabeth Hawthorn entered the dining room. They were introduced. A slight feeling of embarassment descended upon the two. Elizabeth had actually expected to find an old sage in the German style, with a waving white beard; and Johannes Baumgart, who always felt so insecure in the presence of ladies, had hardly expected to find so young a girl in the daughter of his host.

At the introduction he bowed slightly, swept the stubborn lock back from his forehead, and dived into silence.

Something about Elizabeth Hawthorn attracted him; she had a fresh, oval face without any particular beauty, in which a pair of nut-brown eyes claimed his attention. A full blonde corona of hair descended upon a neck that was hardly the best shaped in the world. She wore a close fitting grey velvet dress with wide collar and cuffs and not a trace of jewelry. Nothing remarkable about

the ensemble, yet there was something that created a bond between them. Hawthorn's next words provided the clue to the mystery.

"You may speak German if you like, Mr. Baumgart. My wife's relatives came from Germany, and the language has always been familiar to us. My father-in-law came here to study tropical diseases. He married the daughter of one of the merchant-princes of Cape Town, and became the physician of the German colony, and I, Edward Hawthorn, who have nothing but English blood in my veins, took his only daughter away from him. Elizabeth is a perfect replica of her. At times the resemblance is astonishing, even to me; she brings back the past to me, reminding me of the time when I first met my wife on an excursion. Ah, those days of the past!"

"My German isn't nearly as good as father would have you believe, Mr. Baumgart. He fails to notice it because he only learned a few words of the language from my mother. But I do a good deal of reading in the German classics, particularly my mother's favorite poet, the immortal Goethe."

"Your German is excellent, Miss Hawthorn, and your accent is perfect. Your mother, or rather her parents, must have come from South Germany. Your pronounciation reminds me of Baden or Wurttemberg."

"I must confess to my disgrace that I haven't the slightest idea of the geography of your country," said Elizabeth's father, with a shrug of embarrassment. "I only know that Germany is a province of the United States of Europe and lies between the North Sea and the Alps. Of course I know from my wife, who used to sing old German songs, that there is a great river there, called the Rhine. And I have often heard the name of the town which her mother came from—Kasruh, Kalsrugh, or something like that."

"Karlsruhe! You see I was right. It's the capital city of the state of Baden and lies near the Rhine. Do you know, my dear lady, that we are practically neighbors? Freiburg, in the same state, is my home town. From the heights around the town you can see the Rhine glittering in the distance, and I stayed for some years in Karlsruhe, your grandmother's home town."

"You are doubly welcome to our house, then, Mr. Baumgart. Permit me to fill your glass. Your health—and that of your homeland."

The glasses of the three clinked harmoniously.

"You must show us the place on the map tomorrow, Mr. Baumgart. Weimar also, and the other places connected with Goethe; it will bring me closer to him."

"With the greatest of pleasure, Miss Hawthorn. I share your appreciation of our poet-philosopher; he is an easy man to admire."

"Isn't it strange that only a few out of the immense army who have marched across the earth in thousands of years have remained immortal, no matter what happened after their time?"

"Yes, Miss Hawthorn, such immortality has a touch of the truly godlike. These few individuals from the great eras of civilization in China, India, Chaldea, Egypt, Greece and Rome, Arabia, and the whole Occident, from the gigantic Slavic empire which followed the downfall, and the new culture which has developed in India—these few individuals I say, can be compared to mountain peaks. Scarcely fifty names altogether.

"Yet all these great ones, though they are parted by centuries and thousands of miles, have one thing in common—they have the ultimate similarity of spirit. One peak may be made of granite, one of diabase, a third of basalt—each has its peculiarity—but they have much in common, and Goethe was infinitely nearer to Plato, who lived two thousand years before him, than to millions of his contemporaries. We others are sand-grains in the plain, glad merely to exist in the shade of these gigantic summits."

Elizabeth made no reply. The man before her had a penetrating manner of seeing and judging things. Here spoke a type of man altogether different from the cold materialists who formed most of their guests. His expressive eyes, his deep, sonorous voice carried away his auditors.

IT was Hawthorn who interrupted the silence. "I bought the International Geographic Company's big photographic atlas recently," he offered. "It's a gigantic work—five big volumes, each of them almost ten feet square. In the library now. Every road, every forest, every little village is distinctly pictured. Tomorrow you can travel through all Germany together in it."

"Only with our eyes and fingers, of course, but it would be a pleasure."

"That will be good enough for the present, Miss Hawthorn, but I hope that you and your father will come to see me in my homeland some day, and will be my guests. The world has become so small these days. I should never have dreamed of finding so German an atmosphere in the home of the manager of the Usambaranite Works of South Africa; or of talking in German about Goethe and Germany."

"Yes, Mr. Baumgart, that is a privilege you Europeans enjoy. We here in Africa know of nothing like that in our one great country, all the inhabitants of a continent. But of course this is the reason why we have progressed so far; we have never suppressed racial peculiarities, and we have permitted all the people of this country to develop in their own way.

"The descendants of the old Dutch colonists make excellent statesmen and farmers; the sons of England develop to the utmost their technical skill and their commercial aptitude, the peoples of North Africa give us our seamen and diplomats, the inhabitants of the Nile regions have distinguished themselves as artists and physicians, the native peoples of the East are expert miners, the Congo-Zambesi zone and Somaliland furnish us with unparalleled ranchers—and they all live in peace and unity under the black and white banner with the white cross and red crescent. All have an equal voice in the conduct of affairs so far as knowledge and ability qualify them."

"Things are much the same in Europe now, though old jealousies raise their heads here and there. Europe has always been the victim of peculiar conditions; it is the old land of minor states and narrow nationalism, which for hundreds of years caused conflicts, and it will take more generations still to extinguish its last embers in the

minds of the Europeans. The great misfortune which is now sweeping the northern hemisphere will contribute to a strengthening of the sense of solidarity."

"Tomorrow morning we will find your president, Basinzani's manifesto in the papers, and the Senate of Africa will convene on the morning of the fifteenth. I believe they will undertake the important question of saving Europe from the famine which menaces her."

"All such measure will be palliatives, Mr. Hawthorn. The approaching ice-age is manifesting itself particularly in the north and south at present, but we must not forget that the glacial period will eventually embrace the entire globe, and that even the temperature of the equatorial zones will decrease and the crops will become poorer and poorer."

"Just at present the crops in the tropical zones all round the earth are increasing on account of the increased precipitation and the favorable decrease in temperature during the hottest months."

"To be sure; this is a quite natural consequence, but we are only at the beginning of the ice-age, and things will look entirely different to our descendants. If we can find no way to cope with the difficulty, the cultures of the world will be lowered in the next few centuries, to the level of the hunting tribes who inhabited the earth tens of thousands of years ago; and who fled from the ice close on the heels of the animals, since from them alone could be obtained food and clothing."

"It is inconceivable that all this civilization should again sink to barbarism," said Elizabeth, looking into the clear, serious eyes of the German, with something like fear.

"And yet it will happen. Our desperate clinging to the hope that some wonder will save us only shows how inadequate a conception we have of our position in the universe. Think—the universe, as we see it, contains approximately 250,000,000 solar systems like ours, according to the latest figures. Assuming an average of ten planets to each sun, we have two and a half billion earths in so much of the universe as is visible to us. How many of them are inhabited we do not know, but certainly many millions. Apples, on which bacteria live. How little we care if in some huge Californian orchard an apple is destroyed and the bacteria on its shrinking skin die out! So little difference does the drowning in ice of one of her millions of inhabited globes make to mother Nature."

"I feel you are right, Mr. Baumgart. You have the correct perspective. My God, how insignificant we are and how foolish to think of our little star as important."

"Just so, Miss Hawthorn. And yet there are possibilities for the salvation of humanity. It's getting late, don't you think, and I'm afraid I have been confusing you by diving into the complex regions of speculation in which I move. Perhaps your father will tell you some more of my plans tomorrow morning."

"With the greatest of pleasure, if you will permit it. Now, let's empty one more bottle before we turn in, Mr. Baumgart."

Elizabeth rose. She knew that her father liked to spend the final hour of the evening over a glass of wine and a good cigar with his guests. She patted the hand of the old man and bade him good night. As Baumgart accepted her extended hand she looked into his eyes, which had taken on their usual dreamy look, and again both were overcome by a slight feeling of gaucherie.

An hour later the German went to his room. A few of the appointments had been changed. In a place formerly occupied by an aquatint of Table Mountain was now filled by a head of Goethe in a dark frame and a German edition of "Faust" lay on the table.

The trees rustled outside; the Southern Cross gleamed among the branches. Johannes Baumgart looked up at the constellation never seen by a northlander—how far away lay his home, and yet, in spirit, how near. His hand caressed the binding of the yellowed old book. "Anna Louise Lindner, Karlsruhe, May 3, 2931; in memory of a visit to Weimar" could be made out in faded letters on the flyleaf. Probably an inheritance from Elizabeth's grandmother. He opened the book at random and read the first lines that met his eye.

At the same moment Elizabeth Hawthorn was standing before a tall cheval-glass, appraising her own features with care for the first time in her life.

CHAPTER V.

The Coming of the Nebula

TO call the Cape of Good Hope, where the bold Bartolomeo Diaz was wrecked in the year 1486, the most southerly point of the African continent, is, strictly speaking, not quite accurate. Cape Agulhas, the "needle-cape", lies more than twenty-five miles farther south. This is the last outpost of the continent once called "dark".

What distinguished the Cape of Good Hope is its nearness to the ancient settlement which had now become one of the world's largest cities—Cape Town. At one end of the ragged tongue of land, scarcely thirty miles in length, which sticks out into the ocean, lies the cape where the caravels of Diaz, whipped by the storm, rolled by.

The peninsula stands out from the land at the end of semicircular Table Bay, around which is placed the forest of houses which is Cape Town. Before it to the north lies the open sea; behind it rises the dark mass of Table Mountain, with Devil's Peak and Lion's Head. The city itself lies on a dry, sandy plain which runs back, on the southeast, into extensive groves where slender birches and widespread oaks rear their heads side by side with eucalyptus.

The wonderful anchorage of Table Bay gave the region its importance. Warm breezes from the Atlantic blow across it and the mountains in the south keep it from the chilly airs of the South Pole.

At this point, celebrated in the history of the southern hemisphere, the English government, which once upon a time had jurisdiction over land in south, north, east and west, had built an observatory. It was the first one south of the equator and proved a necessity for the observation of comets and other phenomena that had escaped the telescopes of the north. Thus, in the year 1823, the observatory of the Cape of Good Hope came into exis-

tence under the direction of the astronomer Henderson. It was located four miles from the heart of the city, out in the plain at a latitude of 33° 5′ and a longitude of 18° 29′.

Important astronomical work had long been done there. The distance of Capella was measured; the great photographic sky-map was born here; careful determinations of the distance of sun and moon were made, and many similar works of scientific importance performed. Later, Sir John Herschel, the famous son of a famous father, brought his mighty telescope from England to Cape Town, and began his extensive investigations of the southern skies, hitherto almost inaccessible to research, from the foot of Table Mountain.

Ever more powerful instruments were installed in the course of the ensuing centuries until, in the year 2000, the spreading city began to hinder the observatory's labors. Millions were expended on a new observatory, located on Table Mountain itself, in the midst of a grove of oaks and birches. It consisted of several buildings and was constructed on such a scale as to throw all other observatories, even the gigantic establishments of America, into the shade. The most delicate measuring instruments and the hugest telescopes permitted by the technical knowledge of the age were part of its equipment.

Thus the Cape of Good Hope observatory became the greatest astronomical workshop of the earth, with an enormous staff of astronomers and assistants.

It was here that a discovery which was to become important to all the people of the earth was made; even those to whom the wonderful empire of the stars meant nothing.

It was on July 8, 2211, about midnight, that the astronomer Adam Svendenham observed through one of his gigantic telescopes the region south of the star Gamma in the constellation Hercules. A multitude of tiny stars, never visible to the unaided eye, became visible through the huge instrument, through the barrel of which one could have driven a Ford. A tiny luminous cloud attracted the attention of Sir Adam Svendenham. It floated far away in space and was so feebly illuminated that even through his powerful instrument it was scarcely visible. He referred to the astronomical reports, studied the star catalogs, but found in none of them any mention of the little luminous cloud.

But of course, there were thousands of such clouds in the depths of space; they hang at immeasurable distances from our system, farther away than most of the stars that sparkle in the sky of night. Astronomers call them nebulae; they are composed of gases and dust particles, and are of such immense size that compared with the least of them, the solar system with all its planets shrinks to the dimensions of a toy.

When Svendenham appeared in the calculation department, where a small army of mathematicians was at work, he entered the newly formed nebula on the sky map and reported the discovery to the head of the observatory, Sir Frederick Gill; and with that the not very important discovery seemed to have reached its conclusion. A new comet would have been far more welcome to Svendenham, as well as to his chief. Neither of them had any conception how important a discovery had been made in the old Cape observatory.

AGAIN, in April 2212, the same region in Hercules was swept with the telescope. When Svendenham observed it, he noted at once that the location and size of the nebula were considerably altered. He took a new photograph of the whole section, and these two dispassionate documents, the old and the new plates, gave evidence that the nebula was travelling through the universe with considerable speed and was approaching the solar system. The astronomers of the Cape observatory became aroused; reports and pictures from the famous institution stirred other astronomers throughout the earth into action. All telescopes were turned on the nebula; every instrument sought to establish its location with the utmost accuracy, and all the apparatus for stellar photography in observatories went into action.

No doubt of it—here was a huge cosmic cloud, approaching the earth. All other known nebulae had remained practically motionless in their celestial positions since discovery. It was possible that they too moved; but the motion was imperceptible because of the enormous distances that separated them from the sun. This helped the proof that the famous Svendenham Nebula, as they called it, must be unusually close—though "close" to astronomers is a word of singular meaning. They consider the sun "close" to us, though it would take a bullet about ten years to reach it from the earth.

Now the most accurate instruments in the observatories were set to work to obtain for the mathematicians a basis from which to determine the distance of the mysterious cloud. The result of years of measurement, calculation and deduction was to enable the International Astronomical Congress of Buenos Ayres to make the following statement:

"THE SVENDENHAM NEBULA"

"On the basis of all observations and calculations the following data on the nebula have been established, relative to January 1, 2215: Location of the nebula in the skies: Right ascension, 16 h. 10 m.; Declination 18:3, north, that is, between the stars Gamma and Kappa in the constellation Hercules. It covers 20.8 seconds of arc. The distance of the nebula from earth and sun must be estimated at 1,408,200 million kilometers. Its distance is therefore, 9,450 astronomical units.

"The orbit of the nebula at the present time brings it in almost a straight line in the direction of our solar system. Spectroanalytical measurements on the Doppler principle gives the conclusion that it is approaching our system at a speed of 105 kilometers per second. As our solar system is moving toward the star Delta Herculei, the sun with all its planets is hurrying away from the nebula at the known velocity of 21 kilometers per second. The true rate of the cloud's approach to us may therefore be established at 84 kilometers a second.

"From these data we conclude that at the expiration of 580 years the nebula and solar system must meet, provided both bodies retain their present direction and velocity of motion. This is certainly true with regard to our solar system, but further observations will be necessary to establish it with

regard to the cloud. If it proves correct, our solar system must, in the year 2723, collide with the nebula.

"The nebula is at present poorly illuminated and so blurred that we can see only its brighter central area. This has a diameter of 33 seconds of arc. In consideration of the distance mentioned above, the cloud therefore has a width of approximately 230 million kilometers, but since its edges lose their visibility in space, we must count on an actual width of from four to five times this figure. It is safe to estimate it at approximately one billion kilometers, which is more than triple the diameter of the earth's orbit.

"A chain of small light-knots within the cloud shows that the cloud extends into space for a considerable distance, as they lie behind each other, and the narrowest portion of the nebula is directed toward us. It seems that behind the cloud certain matter, perhaps disgorged from the main mass, is in motion, so that the total extent of the nebula is very difficult to estimate, and similarly the time necessary for our solar system to pass through the cloud cannot be predicted with accuracy. It may take decades or centuries according to the true dimensions of the mass.

"Spectroscopic observation proves that the nebula consists of very finely divided material. Meteorological dust and hydrogen gas have been identified as components.

Frederick Gill, Curator of the Cape Observatory
Samuel Branvill, Curator of Lick Observatory
Schünemann, Director of the Observatory of Hamburg."

WHEN these facts became known to the scientific world they caused boundless excitement, and still greater was the tumult when the report was interpreted to the public through thousands of newspapers and periodicals.

The subject was discussed in every scientific and popular magazine. All newspapers printed pictures of the strange nebula, excited discussion as to whether the astronomical calculations could be considered accurate took place, and speculation, serious and fantastic, on the possible consequences of the coming collision, abounded.

For years the opinions warred throughout the scientific world; and were reflected in the distorted rumors that circulated among the unscientific masses. The end of the world was freely predicted. Revivalists used the event to drag people into their tents. The hydrogen, some said, would ignite on the sun and send all the planets off in an immense blaze of fireworks. The dust would suffocate humanity, cover the earth miles deep, prophesied others. A Swedish scientist was of the opinion that the earth would be heated, like a bullet driving through sand, as it penetrated the mass of dust.

"Our planet might very easily become white-hot," he said. The Italian astronomer Cangrani gave birth to the hypothesis that the friction caused by the masses of dust would slow the earth down in its orbit around the sun. From this we might induce, he declared, that in accordance with the laws of celestial mechanics, the earth would approach the sun in a spiral, soon reaching the orbit of Venus, the effect of which would be so considerable an increase in temperature that the poles alone would be inhabitable, and they would be warmer than central Africa.

On the other hand a group of scientists came to the conclusion that the most probable result was that the dust would produce the opposite effect. The veil of dust would be too thin considerably to hinder the motion of the earth, since the small stars behind the cloud were clearly visible through it. The dust, in fact, would absorb so great a part of the sun's radiation that our planet must become colder.

This opinion came to be more and more generally accepted, and it remained for the future to demonstrate that it was correct. A Swiss geologist, Anton Zussli of Berne, was the first to point out that very likely a similar occurrence had caused the ice age which had glaciated vast tracts of the earth forty thousand years before.

Thus was the question discussed through all the papers of the world for a decade. The comic papers were, of course, not behind the rest; they pictured the earth as an old lady accompanied by a bull terrier (the moon). They showed her hurrying through a thick dust-cloud, which was the result of a cart being driven along a country road. A grinning devil was shown sitting at the tail of the cart, shouting insults at the old lady.

The subject became the butt of the stage, the vaudeville show, and street songs until the coming of more immediate interests caused public excitement over the nebula to die. "Five hundred years away," people said, "My God, that's a long time to wait. *Apres nous, la deluge.*"

In the world of science, however, the question was not so easily shelved. Astronomers deal habitually in huge figures and immense stretches of time, and to them the thrill of the event was not lessened by the fact that the solar system would not enter the Svendenham Nebula for another five hundred years.

A special committee for the observation of the nebula had been named. The observatories of Cape Town, Madras, Milan, Potsdam, Yokohama, Santiago, Chile, and the Lick Observatory of California, were entrusted with the task of watching the cloud.

The correlation of the gathered data was placed in the hands of the Cape Town Observatory, by way of compliment to the body that had made the discovery.

Meanwhile time ran its even course, indifferent to human measuring rods and human history. Five hundred years . . . . Like a fugitive pulse-beat in the vast evolutionary process of nature. In ten to twelve thousand years human history can be traced far back beyond the point where the Babylonians first began to build their mud huts and the earliest cultures developed at the foot of the Himalaya massif.

The most reliable data show that man has lived upon the earth for eight hundred thousand years and twenty-five millions of years have gone by since the time when those forests whose petrified remains now being dragged to light in the form of coal, were green in the land. And if one counts back to the days when the planet itself was a glowing ball the stretch of time is quite beyond the imagination.

For aeons the earth had been flying through space, a diminutive companion of the sun; for tens of thousands of years the cloud had wandered through the universe from depth to depth. Now by chance it was brought into the immediate proximity of the sun.

Time rolled on. The solar system and the cloud raced through space, but on the earth generation succeeded generation. Svendenham was long dead, and the men who had conducted the first investigations on this strange cloud had also sunk to their last rest. Still, with improved instruments and methods astronomers sought to pierce the mysteries of the skies, above all the approaching cloud, and the archives of the Cape Observatory were piled deep with measurements, photos and spectroscopic investigations of the stranger.

CHAPTER VI.

Growing Desolation

IT was eighty years after its discovery, in the year 2290, when the nebula became visible to ordinary telescopes. It appeared near Gamma Herculei like a blurred chalk-mark on a blackboard. The flame of interest received new fuel. Once again the whole world was aroused by the thought of the Svendenham Nebula and what fate it brought for the earth. At this time it appeared that the data originally calculated by the committee were, on the whole, correct, particularly with regard to the distance of the cloud. It also became beyond doubt that it had retained its original direction and speed of movement—in other words that the solar system and the cloud were certain to collide.

On the other hand the earlier estimates of the cloud's dimensions had to be thoroughly rectified. As it grew more distinctly visible it became possible to determine its true size. New thickened areas gave a further means of estimates; the outermost lay at a distance now estimated at 8.3 million million kilometers, but since the front of the cloud had covered twenty-two and a half billion kilometers in the past eighty years and had at that time been 1.38 million million kilometers away from the solar system, it appeared that the cloud had the enormous length of 6.9 million million kilometers. Should the solar system pass through its longer axis it would remain in the cloud for 2500 years.

The width of the cloud could now be calculated with some accuracy at 600 billion kilometers.

In estimating the size of the nebula the old calculators had made grave errors as is evident from a comparison of the figures. They had placed the size of the cloud at too low a figure, a fact explicable by reason of the invisibility of its more distant parts at the time the calculations were made.

Much though these huge figures amazed the general public, there was nothing in them to perplex astronomers, since the nebula in Orion is, at a conservative estimate at least twice this size. Nevertheless there was considerable pessimism in certain circles with regard to the future of life in consideration of the fact that our planet would have to plunge into this dust-bath for two thousand five hundred years.

In the first centuries this state of mind had given way before the problems that occupied humanity more urgently. Great political upheavals had taken place. A hundred years before the arrival of the cloud a feeling of panic swept through the population. Much damage resulted. The Russian astronomer Mikhailow thought himself justified in setting the arrival of the cloud only a few years ahead, and his articles filled tortured humanity with rage and fear.

Once more the date for the end of the world was set in the immediate future. Once more a huge wave of pessimism ran round the world. New religions sprang up everywhere, all with a single object—that of buying God's favor in the last days with self-immolation. The number of those who sought to escape the horrors to come through suicide increased with such rapidity that all governments embarked upon a vigorous campaign of education. This was undertaken in a thorough, efficient and cold-blooded spirit, as a matter of expediency.

Every government had treatises on everything in connection with the cloud produced by its most expert scientists. These articles were written on the level of comprehension of the masses and millions of copies were distributed. In them the men of learning made it clear that the impact of the cloud, which was very thin, would never be felt at all, and that only very slowly, in the course of centuries could any climate change come about. At that time it would take the form of a drop in temperature, with the effects of which the united forces of modern science would certainly be able to cope.

Nor did the campaign of education end here. In the elementary schools the subject was freely discussed and the growing generation made thoroughly familiar with its implications. All moving picture theatres were compelled to show, at least once a year a film on the Svendenham Nebula, which showed the nebula itself, its approach, its contact with the earth, and its anything but destructive effects.

Thanks to these intensive methods the public regained a measure of its confidence and the coming days were awaited without further manifestations of fear.

The first traces of the approaching cloud were observed in the year 2718, five years before the calculations of Gill, Branvill, Schünemann of 2215 had predicted.

In the spring of that year nature lovers enjoyed the most fascinating sunsets they had ever seen. The sun went to his rest enveloped in a wide purple mantle. Far into the twilight a faint rosy coloration hung in the zenith, through which the stars blinked greenly like splinters of emerald. Red and orange clouds of dust floated far up in the skies as late as midnight, and measures of their altitude showed them to be a hundred miles above the earth, and therefore at heights never reached by the ordinary clouds of water vapor, the most lofty of which attain only seven and a half miles.

They could only be masses of microcosmic dust drifting through the ether and creating the wonderful color effects through deflection of sunlight.

At times volcanoes had been known to throw such masses of dust and ash into the air as to

produce a similar effect. The monstrous explosion of Krakatoa in the Straits of Sunda in 1883 had brought about the most beautiful sunsets that human eyes had seen before this time. But now there was no volcano, and there was no the slightest doubt that the masses of cloud originated in the Svendenham Nebula.

The nebula itself was no longer visible in the skies at night. On approaching the sun it had, at first, become brighter and brighter, but its light decreased as it became more extensive, and when it finally occupied the whole sky the light was so diffused that it no longer made any impression. Only its more distant contours and the thicker knots were seen as irregular luminous spots of the size of the moon.

THE cloud, the much-feared cloud, the thought of which, five hundred years before, had thrown the world into a panic of anxiety or silent care, had at last arrived. Thus far it was merely a perfectly harmless visitor from astral space, which traced colored ribbons across the skies, laid a shimmering mantle of purple around the earth, which became the delight of all those who commune with nature on warm summer nights.

Naturally, careful investigations on the compositions of the cloud's substance were begun at once. Whale-hunters and seamen whose activities carried them to the polar regions reported, a few years later, that vast areas of snow had taken on a rusty-brown color. A committee of chemists was sent from Finland to the polar wastes. They collected samples of the snow, melted it down and analyzed it. The evidence showed that the coloration had been caused by the presence of finely-divided iron dust. It detail analysis showed that the dust contained 63% iron, 8% nickel, 21% silicates, 6% limestone, and traces of alumina and magnesia. The same result was obtained when balloons carrying evacuated vessels were sent to high altitudes and there opened automatically to take in samples of the air and dust. Such tests showed a small amount of hydrogen present in addition to the other elements. Thus was it proved that the dust-cloud consisted of the same general components as meteoric dust which, as is well known, penetrates our atmosphere in great quantities.

The cloud proper was no longer visible, aside from a slight illumination of the nightly sky visible only to the experienced eye, and the twilight effects produced by the dust. Evidently the cloud was not throughout of equal density, since, after a few decades a distinct dimming of the sun occurred. A swimming halo surrounded the star of day and his light became singularly turgid. Such occurrences, which were repeated at intervals, naturally created a certain state of public anxiety, but they passed without damage.

Beyond doubt there was a slight decrease in the sun's radiation. It was detected by numerous instruments, and evidence from meteorological stations, spread over a period of years, soon showed evidence of a slight, but distinct drop in the average yearly temperature. This had been 13 degrees in Europe for thousands of years. Ten years after the first contact with the cloud it had already dropped to 11.5 degrees and kept on falling slowly but measurably.

An increase in the precipitation manifested itself with greater distinctness. In the temperate zones tenacious fogs which were a particular handicap to navigation, became a customary occurrence. It had been known for a long time that such fogs occurred only when very fine dust particles were floating in an air saturated with water vapor. The redoubtable London fog originates in the immense quantities of tiny coal particles expelled into the air by innumerable factory chimneys and locomotives, and gathers vapor from the nearby ocean. Even raindrops and frost-crystals require for their formation such a condensation nucleus of dust. Small wonder, then, that with the entire atmosphere deluged with dust, rain and snow increased beyond their old limits.

As it became colder the snow predominated in the more elevated regions of the north and south of the earth. It was no longer melted away by the sun as of old, but capped every mountain no matter how small, and was compressed through its own weight into ice. Naturally this ice could not grow into the sky; it moved down into the valleys in the form of glaciers. Thus the glaciers wandered farther and farther south from their homes. The icebergs in the oceans became more numerous and increased in size.

Grave cases of shipwreck made the utmost care in navigation necessary. In the course of centuries, in short, it became clear that the Svendenham cloud, which at first seemed so harmless, had become a distinct menace to human life. This was particularly evident in Scandinavia and other subpolar regions, as they became quite uninhabitable on account of the increasing ice-caps, or could be called inhabitable only to the extent that hunting and nomad peoples alone could sustain life there. Northern cities of once-great importance were deserted; the population streamed southward.

The land under tillage in Europe, northern Asia and North America, decreased until finally only a united effort by all the governments of the earth could avert a truly pitiable famine.

The cloud had come; the earth had been flying through its dust-masses for centuries with express-train speed, but the condition was to continue, according to the astronomers, for thousands of years more. What would the harvest be?

CHAPTER VII.

A Great Observatory

FOR twenty minutes Benjamin Graachten had been standing motionless in the impenetrable darkness under the great metallic dome. Even the tiny point of light at the end of his cigarette had been shielded by his hand, for he knew that these astronomers, particularly old Rawlinson, were apt to become irritable when an unexpected ray of light disturbed the eyes that sought to spy out the secrets of the universe.

The famous editor-in-chief shifted his weight from one foot to the other, leaned against a pillar and shivered when a gust from the aperture in the dome struck him.

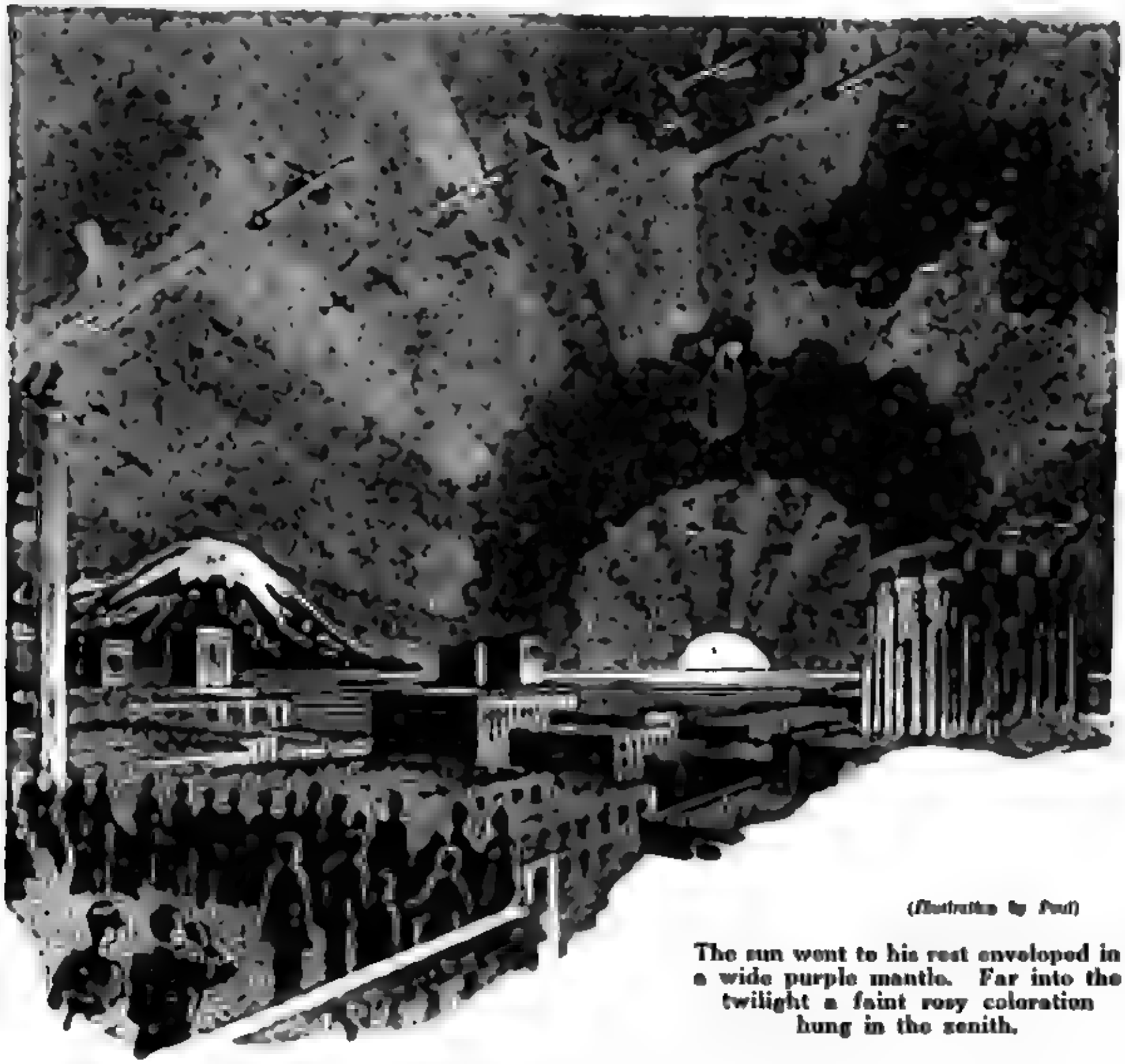
All he could see was a slender ribbon of night-sky, thinly ornamented with stars—the only sector of the heavens visible, and this visible because it could be seen through the slot where the huge telescope looked out into space. The instrument stood out in the half-light, a feeble silhouette, beneath which the darkness was Stygian.

"Only a few minutes more, Mr. Graachten, and we'll have something for you."

"Don't let me disturb you. I know from experience that you'll be more amiable later."

magneto of the chronograph would rattle as it recorded the time-signals from the man at the telescope on a revolving band; and the soft hum of the electric clockwork, as it kept the huge instrument in step with the motion of the stars, formed a background for the tone-picture.

"Well, Mr. Graachten, I have finished the measurements. As long as you have invaded the top of Table Mountain in the middle of the night, you may as well see something interesting. Come here and look into the glass."



(Illustration by Paul)

The sun went to his rest enveloped in a wide purple mantle. Far into the twilight a faint rosy coloration hung in the zenith.

An inarticulate murmur came from the base of the telescope.

Benjamin Graachten lit a new cigarette from the butt of the old one, being careful that no light escaped.

He pricked his ears to catch the tiny noises in the dark.

Behind him, in the chronometer room, the enormous second-clock which missed the true time by scarcely a tenth of a second in a month, ticked away in unending monotony. Now and then the

"My dear Mr. Rawlinson, that is easier said than done. I can see neither your famous person nor the end of the telescope in this Cimmerian darkness."

"I'm sorry I can't make a light, but if I did you wouldn't be able to see anything afterward. Try to follow the sound of my voice, and I will give you a hand."

Benjamin Graachten felt his way along with outstretched hands until he touched fingers with the famous astronomer.

"Now sit down in this seat. Careful. Right over your face is the eye-piece. Feel of this thing here. Now look!"

"I see nothing but a few tiny stars."

"To the left you can see a dim, irregular light."

"I don't see it."

"Well, my dear man, if it were as simple as that. Now strain your famous journalistic eyes, which can usually see through a stone wall, on this spot beside the stars."

"Ten thousand devils! I can't see a thing, and I'm surprised that your immense sky-cannon gives you so little to look at."

"It all depends what you're shooting at. If the moon were in its range, now, you could see every rock in its craters. But this is a very different object—namely, the last outrider of the nebula; a dim little cloud of light ought to be visible."

"Wait! I think I see it—a spindle-shaped bit of light."

"Right you are."

"And so this is the outermost border of the cloud which is driving us all to Gehenna?"

"Just so. When our solar system reaches this part of the cloud our ice-age will end; or rather, the end will begin."

"When will that happen?"

"According to my latest calculation, in the year 5236; in other words, 2236 years from now."

"Good God, my dear Rawlinson! Do you lengthen the time every day?"

"Yes, my dear Mr. Graachten. If that is too long for you, join the party of my eternal rival, Abdul Ben-Haffa of the Cairo observatory, who calculates only 2012 years for the duration of the nebula. How he arrives at that figure is obscure to me."

"A few years less makes very little difference to me; if for no other reason, because you are a neighbor of mine, I'll swear by your figures."

The old astronomer laughed. "Very nice of you, I'm sure."

"Not at all. What will a man not do in the interest of his home town? To the devil with Abdul Ben-Haffa."

"Don't let's talk about him. It's the one subject on which I have strong feelings. He is trying to rob me of my hard-earned reputation as the first astronomer of the country. Evidently, he can hardly wait till I pass away. In fact, merely mentioning his name does considerable damage to my seventy year-old heart."

"He is said to be far less accurate than his assistant, Mr. Voorthuizen, who is the descendant of a long line of Dutch scientists."

Rawlinson growled something into his patriarchal beard. "If you will permit I will turn on the light now and we'll find some place more comfortable than this draughty dome to talk."

"By all means. I'm stiff already. It astonishes me that you at your age, can spend hours lying in your seat."

"Well, you just can't heat observatories."

The electric lights went on.

BENJAMIN GRAACHTEN could recognize objects about him. He was more lying than citting in the comfortable seat. Above him the tube reared its immense head, eighty feet up to the aperture in the huge metal dome. A disorderly array of small telescopes, beams, balancing weights, levers and compasses gleamed in the light.

"By the holy Chinchinchindra of Calcutta! Here I lie under this monster like an ant under a man's shoe. If the structure up there were to come loose. . . ."

"Then the *African Herald* would lose its head."

"Don't you ever get scared lying for hours under this thing? It must have an enormous weight."

"A good four hundred tons. The lens alone weighs tons, but don't you worry; the axles are as thick as a century-old oak and hold the glass unshakably in its place."

"Have you heard that your rival in Cairo is going to build a monster new instrument? A telescope of an entirely new type."

"I have heard rumors."

"How wide is your lens?"

"Three hundred and eighty inches."

"The new instrument is to have a mirror of 450 inches."

"That makes me laugh; it's an impossibility."

"Well, my dear Mr. Rawlinson, they're already at work. They are building it in secret. The instrument is an entirely new invention; new design and all. It will surprise the whole world. The idea originated with Voorthuizen, and the engineers say it will be surprisingly effective."

"And I say I don't believe it," growled the old man, irritably.

Rawlinson, who was referred to by his fellow scientist, Abdul Ben-Haffa as an "outmoded prima donna", slouched across the observatory in his furs to the mechanism which closed the observation aperture. The shutter creaked across the opening. The old man had a magnificent head; a white mane joined with the long wavy beard that flowed like a waterfall over his dark fur. He led the way through the chronometer room to his well-heated office.

"Make yourself at home, Mr. Graachten. Here are cigarettes, over there is tea and wine. Take whichever you like. Now, tell me what brought you to Table Mountain in the middle of the night."

"Thank you, it's rather late now, so I'll confine myself to a brief narration. Do you know a German scientist by the name of Johannes Baumgart?"

"Baumgart? Johannes Baumgart? Seems to me I have heard the name. Baumgart? Wait, yes—a work in several volumes got a good deal of attention some little time ago. I know it only in part, however. At any rate, he has a reputation in the scientific world."

"So you think him a man to be taken seriously?"

"Unquestionably."

"Tell me, Mr. Rawlinson, do you think a flight to the moon at all possible?"

"My dear Mr. Graachten. I hope you haven't climbed Table Mountain in the middle of the night to tell me fairy-tales. Good old Jules Verne has been dead for more than a thousand years and the Frenchman, Bourquin, who tried to fly to the moon more than two hundred and fifty years ago—"

"Dropped from a considerable altitude into the ocean and was never found. I know about it, but

this German scientist wants to repeat the Frenchman's attempt with better means."

"This Baumgart?"

"The same."

"Well, I think it's a fantastic idea. The fact that a scientist blew his soap-bubble doesn't make it any more substantial."

"Since Bourquin's attempt, two hundred and fifty years have elapsed and we have made progress—"

"But gravitation still remains."

"What do you mean by that?"

"My dear Graachten. The fuel necessary to propel a rocket ship to the moon is truly enormous and only a rocket ship can do it."

"No doubt."

"Good. Then you will understand that none of our airplanes could move through space, since it is as much as the bell out of which I pump all the air. You see the air becomes so thin at an altitude of 25,000 feet that our respiratory organs won't work, and at a distance of fifty miles from the surface there are only minute traces of the gaseous element left, quite insufficient to support even the daintiest butterfly. When you get farther out there is not an iota of air. From such a vacuum any airplane would drop to the earth like a stone and our rockets do not possess sufficiently powerful fuel. Is this clear to you?"

"It is very likely you are right, Mr. Rawlinson. Let's leave the subject and attack another. Do you believe that the moon is inhabited?"

"My dear Graachten, you are really delightful tonight. There is not the slightest doubt that it is not inhabited, as there is no longer any air or water on the moon."

"You know that your friend at Cairo holds the opposite opinion and claims to have discovered distinct evidences of something like an atmosphere and traces of either ice or rime, which he claims, cause a vague fog along the edges of the craters at sunrise."

"THIS Ben-Haffa opposes me in everything and anything. If I said today the moon was inhabited, he would say tomorrow that it was not."

"The giant telescope being built up there will set all doubt on those points at rest."

"Go on." Rawlinson patted a pile of books irritably.

"Do you believe that the moon was inhabited at one time?"

"That also I am inclined to doubt. Traces of human activity could hardly have escaped our big telescopes. Nothing of the sort has been discovered thus far, though some of the formations might be called curious. But for other reasons also, I doubt that a highly-developed race could have evolved on the moon. The time available was hardly sufficient; the moon died too young, in a sense—lost its atmosphere all too soon. On earth it was innumerable millions of years before nature reached the point where she could produce man. The same span of time was not offered to the short-living world of the moon."

"This Mr. Baumgart holds the opposite opinion. He wants to explore the place and make use of the experience of the moon's inhabitants in solving our problems."

"What an idea!"

"You will be able to read the details in our paper. This German wants to use the experience of the Lunarites with their dying globe to help us out in our ice-age."

"A very queer idea, I must say."

"He's going to ask the government to back his project."

"And I shall certainly warn them against such butterfly-chasing. In the first place, the journey will be a failure, but that is for the engineers and technologists to work out and does not concern me.

"Secondly, the moon never was inhabited and is not now. There is no information to be had from it. And thirdly, nobody could succeed in staying there for any length of time, even if he did succeed in reaching it. I think these reasons would be sufficient to dissuade our government from staking human lives on such an enterprise, not to speak of the energy and money involved."

"Will you permit me to put this opinion in print in a little follow-up to the story of Baumgart's plans?"

"I urge you to do so."

"Many thanks, Mr. Rawlinson. And now I will cease robbing you of your night's repose, if astronomers ever repose at night."

"That's all right. Good night . . . Oh, yes—one more thing. If you hear anything about the plans of the people in Cairo—you know, about the new telescope—please keep me informed. We all have our curiosity, you know."

Benjamin Graachten did know. He bade the astronomer good-night and walked on through the wide park annexed to the observatory, in some of the buildings of which people were still working. "The old man is really a little out of date," he thought, "and brim-full of jealousy of everything that doesn't come from his own sky-factory."

At the base of the mountain, he found his car waiting for him and whirled away. "I must be careful not to let Rawlinson's disapproval get into our editorial point of view. One never can tell how things will come out and in any case, it will be sensational news. For the present I had better keep two strings to my bow."

He lighted a cigarette and smiled slyly as he made the journey to town. An hour later he had dictated the interview with Rawlinson and in another hour the tireless editor was racing from the roof of the *Herald* building toward Zanzibar in his airplane.

CHAPTER VIII.

A Great Assembly

THE brilliant morning sun shone on the myriad roofs of Zanzibar. The fresh breeze promised a comfortable temperature for the day, particularly welcome since thousands of delegates, a countless number of government officials and all their retinue were to convene that day, streaming in from the four quarters of the continent.

It was a red-letter day for this seat of government and administration of the United States of

Africa, with its elaborate office buildings, wide, neatly-landscaped parkways, and its glassy-smooth avenues. Even in the early morning they were filled with numberless pedestrians, crowded transit lines and racing automobiles.

A special message of the President had summoned the High Council and the legislative bodies—Parliament and Senate—for extraordinary session. Important questions were to be decided. Africa had volunteered to extend a helping hand to the menaced population of Europe. The other great nations of the world were occupied with starting relief plans for Northern Asia, North America and the southern tip of the South American continent.

But before the delegates now there lay the question of Africa's own future, for here and there the climatic effects of the coming ice-age had made themselves manifest. The task before them was a probing to the very bottom of the situation and devising some relief measure that would be more than temporary.

From the great ports of Bagamojo, Saadani, Pangani and Dar-es-salaam, swift electric ferries were arriving at the harbor of Zanzibar, and airship after airship dropped like tired birds to the level of the great airport of Bagamojo, beyond the canal. Senators, members of parliament, counsellors, ambassadors, journalists, and scientific experts were arriving at their destination.

At the crest of the gentle slope the imposing government palace rose above a cobweb of broad avenues. Its magnificent dome, composed of gilded plates and green, glazed tiles, glittered afar in the sunlight. At its peak waved the black and white flag with the cross and the crescent. A perfect forest of tropical plants surrounded the majestic stone halls like a green wreath. A huge flood of people passed ceaselessly up and down the wide stone steps that led to the entrance. The waters of a huge fountain tossed rainbow-jewels in the air, the breeze blowing its top out into a dim veil of silvery drops. At one side of it stood the bronze head of Africa's first president, van der Valk, who had, four centuries before, surmounted the last difficulties that stood in the way of a union of the peoples of the continent.

Great throngs crowded the square to watch the arrival of the officials and the foreign ambassadors. Hardly a single policeman was to be seen; respect for the laws they had made was one of the most deeply-rooted instincts of this essentially social people.

A plain dark car the black-painted sides of which were polished to the last degree, was stopping at the foot of the stairway. The chaffeur descended to open the door. An old gentleman, clean-shaven, his fresh, ruddy face framed in a white halo of hair, was visible. Slightly bent and leaning on the support of his cane, he proceeded slowly toward the stairway. The bystanders uncovered with here and there a word of greeting for the old gentleman, who thanked his well-wishers with a friendly smile as he ascended the stairs.

"Who is it?"

"That, my son, is His Excellency, Cornelius van Zuylen, the president of our country. Now see that gentleman over there—the one with the big briefcase and the dark brown face? He is the chief representative of the native peoples of the center of our country, Senator Umararu, and the lady behind him is a delegate from the littoral district, Tripolis, Mme. Birrha."

There was a sharp rattling sound in the distance; a wave of motion swept over the spectators and all heads were uplifted. A glittering shape plowed through the air from the north with lightening speed, rapidly gaining size as it approached.

"Look there! No—there above the roof. It's one of the new rocket planes. The other day a big one which had been visiting polar Europe came over. See how it is dropping down toward the Bagamojo airport. Notice the long chain of smoke-puffs behind it."

A group of ladies stood beside the great fountain. They were mostly foreigners watching the interesting spectacle of the government of a continent in session. The social secretary of one of the big hotels was acting as their guide.

"Your attention, ladies! Here is something of particular interest to you." A car of the newest design, painted a deep red, was racing across the plaza in a bold curve. It pulled up abruptly at the foot of the long stairway. A lady was at the wheel. She leaped out, and accepted a dainty brief case from the hand of a young girl whom she assisted out.

ALL eyes were turned toward the new arrival who had driven her own machine, and murmurs went through the assembly. The features of the feminine spectators brightened in smiles of satisfaction.

"Do you know who this is, ladies?" asked the social secretary of his party. "The most important woman-member of the Senate, Mme. Khadija Effrem-Latour. She is from the Nilotic zone—a beauty of the first order and at the same time one of the country's most brilliant women."

"Evidently not a lady of European descent, since that coal-black hair, those flashing eyes, that bronze complexion—"

"Right you are. Mme. Effrem-Latour, as the name suggests, is of Arabic descent on her father's side. He was mayor of Alexandria for some time. Her mother, Mme. Latour, was from Southern France."

"What a splendid figure! That finely-chiselled nose; and what grace!"

"And yet every movement full of energy. Her eyes are so clear and penetrating. The lady she is speaking to is her secretary, I believe."

"Exactly. Incidentally, Mme. Effrem-Latour is barely twenty-nine and in spite of her remarkable beauty has never acquired a husband. I'm afraid she's too clever and energetic for us men."

The ladies laughed.

"That may very well be," an elderly American woman said with a significant glance. "The beard-wearing section of humanity don't go in much for her type."

"Moreover, she is a remarkable debater. Everyone is agreed that she is a wonderful orator. She is usually in opposition, and she is her father's own daughter. She stands particularly for the interests of the Mohammedan population."

"Very interesting."

"Especially amusing have been her debates with Sir Archibald Plug. He's an old sea-dog with a crude sense of humor who is not at all afraid of the madam with the beautiful eyes and the sharp claws. The other day a comic paper ran a caricature of the two, showing them as a dog and a cat, both pulling opposite ways on a big fish."

The interesting figure of the lady legislator had long since disappeared through the lofty portals of the government palace. New arrivals claimed attention. Rubicund Ismail Chak, Mr. Praga, representative of the United States of Europe, T'ian Lung, ambassador from the Chinese Republic, Mr. Blackburne, envoy from the United States of America—and hundreds of other male and female representatives, famous scientists and well-known newspaper men followed each other up the stairs. The crowd had an air of festival gaiety; the sun climbed higher and higher in its path, the fountain turned to a shower of molten silver and the high dome of gold and stone shone magically across the whole scene.

* * *

Every place in the huge parliament hall was filled. An excited buzz of conversation ran through it. Compared to the already depressing heat in the streets the temperature in the room was cool. A current of air, supplied by a concealed refrigerating system, ran through the place. Through the skylight, composed of thousands of prisms, many-toned light penetrated to the most remote corners of the auditorium. Around the walls, among the leaves of tall plants, the marble busts of the great men of Africa's past looked down upon the assemblage.

In the foreground, on a little dais, was the bronze seat of the president, upholstered in red velvet. Above it hung the great standard of the country, singularly impressive with its cross and crescent formed of living jewels on a black and white background of silk. Right and left stood the ministerial tables, before them the seats of the senators and councillors and in widening circles behind them the seats of the members of parliament.

In the boxes at either side were the seats of the ambassadors and journalists, and the balconies above groaned with the weight of the spectators.

"All these and countless thousands more." The seats of the representatives were arranged neither by political nor territorial divisions, but mingled together with intentional disorder. The older arrangement by parties was considered primitive; every member was expected to vote on measures without the party influence.

THE golden hand of the great clock reached the hour. At that moment doors in the back of the hall opened and the ministers filed to their seats. It was ten o'clock; the extraordinary session was opened. A moment later wreaths of green lights to the right and left of the standard burst into luminosity. His Excellency, Cornelius van Zuylen, the president, stepped out of a little niche, bowing his snowy head to one side and the other as he passed to his seat.

A sudden silence fell on the hall. Everyone rose. A moment later a hundred boys and girls, dressed in white and with green wreaths in their hair, appeared on the dais. They had entered in silence, and showed every variation of color from purest white to deepest ebony. They were orphans from all parts of the great continent, gathered to personify the union of the peoples—the fraternal idea on which the great nation was based.

Strains of music from somewhere above filled the hall, and the hundred jubilant voices of the children joined in singing the solemn national anthem—the song of the green wreath of love and toleration which symbolized the union of cross and crescent. It was also a song of the equality of all those who bear the human name, of the universal birthright, and of the strength in a union, which labors for the universal good.

The Afrikanders of the year 3000 were more men of deeds than words, but at this moment, when the whole empire, symbolized in its children of many races, was giving voice to the song of the fatherland, their hearts beat fast and high. There was a touch of solemn emotion about the scene.

The song ceased; the music died out, the children disappeared as quietly as they had entered. And now the voice of the president rang through the hall:

"Ladies and gentlemen: Senators, councillors and members of the parliament of the United States of Africa, I welcome you to our cooperative labors. May the benediction of all good spirits be with us."

This was the formula used at every opening of the parliament. The audience, which had remained standing during the song and the benediction, took seats, and once more the voice of the president was heard. The old gentleman did not speak very loudly, and it would have been difficult to hear him in the remote corners had not a well-arranged system of loud-speakers transmitted his words even to the last seats. Even in the most distant cities of the continent the president's address was being heard, carried across mountain, plain and river by the marvellous radio of the year 3000.

"Ladies and gentlemen: Senators, councillors and members of parliament: The government of this country has felt the necessity of summoning you here to inform you of and obtain your opinion on the situation of Northern Europe and to take whatever relief measures are needed. Measures to prevent a like calamity to our own country must be considered, as well as future developments.

"You all know that our troubles have a single center—the cosmic dust-cloud into which our globe is plunging and which has produced climatic changes altering, and in cases making difficult, the existence of life throughout vast areas of our earth. International negotiations have led to the acceptance of an agreement through which every country in a favorable climatic situation will undertake the relief of those areas nearest it menaced by the ice.

"The negotiations with His Excellency, the president of the United States of Europe, have been completed. High Commissioner Ismail Chak, who has returned from his inspection tour in the north, had the honor of being invited to Rome, and has brought with him the necessary data for such relief work as will be needed. During his extensive tour of inspection he had a personal opportunity to

form an impression of the exceedingly sad conditions prevalent in northern Europe. His reports have been supplemented by the technical observations of our government geologist, Mr. Vanderstrassen.

"Briefly, the task before us is as follows: Shipments of enough food to supply eighteen million Europeans must be forwarded regularly for a period which cannot at present be estimated. Another twenty million Europeans who have been deprived of their homes will have to be cared for in our country. They will thus be placed in a position to earn their own livings. However, we must find homes, food and employment for them, at least for the time being, and this will necessitate a considerable amount of care, expense and work for the government and its various ministries.

"It is our duty as enlightened men and inhabitants of a great continent which was rescued from its long sleep by the efforts of Europeans, to do everything we can to help our brethren in need. We will execute this duty with unselfish eagerness. But we must not close our eyes to the fact that certain dangers lie in incorporating millions of men and women into our community as guests. Our laws and institutions depart widely from the European standard.

"Another great problem lies before us. At the present time we are able to undertake these high duties by means of economies in our government, the better utilization of our farm areas and the further extension of our cattle-raising industry.

"But we do not know how long this condition will endure. According to the estimates of our scientists, the glacial period is to last another two thousand years and its effects will increase rather than diminish.

"Even at the present moment, traces of cold are manifesting themselves in the more elevated sections of our country. What will happen when our crops also decrease and want arises in our country no man can say. There will come a time when we are no longer able to help ourselves, not to speak of our foreign guests. I do not wish to paint a discouraging picture or to paralyze your energies by giving up hope, but it might well come to pass that a forced migration from the north and south toward the equator will set in. Such an event must lead to terrible struggles, made cruel by hunger, and more terrible than those of which the history of past millennia tells us."

CHAPTER IX.

A Stirring Debate

A FEELING of emotion was visible in the audience. It was not customary to interrupt the address of the chief executive by interjections or questions, but the general stir gave evidence of the impression his words had made.

"I perceive that you realize the gravity of the problems before us. We must give our utmost labors to prevent the coming misfortune so that our descendants will be unable to accuse us of any sins of omission. If there are means of escaping our fate, none have as yet been discovered. But to stimulate all minds, to stir all forces to action, the government of the United States of Africa has posted an award of one billion francs for the discovery of a means for overcoming the effects of the glacial period which shall be approved as practicable by the scientific committee.

"This country, this continent, which was once called the Dark Continent, will use its every effort for the salvation of humanity. Perhaps it will be the land to lead mankind to a more glorious future."

The aged president stepped back from the tribune and sat down in the bronze throne on the dais. A roar of applause arose, echoed from the marble walls and the prisms of the skylight and finally died away.

A moment later a light-signal above the president's seat lit up indicating that a radio-message had arrived for immediate attention. An expectant silence fell upon the audience.

The chairman gave a signal to the unseen speaker to go ahead, and a loud voice rang through the auditorium:

"His Excellency, the President of the United States of Europe, wishes to address his greetings to the congress."

"We are ready to hear his Excellency."

Every word, though it came from far-away Rome, was clearly audible:

"At this significant moment, when His Excellency, the President of Africa, the Senators, Councillors and members of parliament of this powerful state are assembled to confer on the relief measures for our nation and its people, it is my desire to extend to the government the greetings of the European federation of states, and to thank you for the helpful attitude with which you look upon our difficulties. May the work be as blessed as its conception!"

"The government and parliament thank your Excellency. Everything possible will be done to help our brethren in the north of the globe."

The red signal was extinguished. The food administrator, Samuel Machai, a splendid man, the leader of the great Jewish nation of Palestine and the pride of his countrymen and faith, stroked his long beard, adjusted his spectacles on his prominent nose, and began to discuss the problem in all its ramifications of feeding the multitude. A concealed apparatus projected figures, curves and statistical charts onto a frosted glass screen on the wall as he spoke. All the questions discussed were thus illustrated in a manner within the comprehension of the least intelligent. It became apparent that crop levels in south and north had not been maintained, but the yield from the equatorial zone had gained. This was followed by thorough reports on the prospects of opening up new areas to agricultural productivity, and for improving the methods of ranching. Samuel Machai demanded that the greater number of the expected immigrants be used in agricultural work in the general interest.

He also emphasized the necessity of conducting new experiments on the production of foods by chemical means and suggested to the Minister of Technology that all available forces be concentrated on this task.

The Minister of Health pointed out that the

adaptability of the Europeans to the various climatic conditions to be found in parts of Africa must be considered to avoid the outbreak of epidemics.

The Ministers of Finance and Justice gave a digest of the economic and legal measure, necessary to deal with the immigration problem.

High Commissioner Ismail Chak offered a report on his journey, and showed motion pictures of the ice-regions, which were received with general interest.

At this point, Mr. Albarnell, the Minister of Technology, took the floor. His speech was followed by the assemblage with considerable interest.

"The scientific commission appointed by me has enabled me to lay before you the following data. The cosmic cloud has so great an extent as to promise that its last limits will not pass the sun and earth until two thousand years have gone by. Our two leading experts, Dr. Rawlinson and Dr. Ben-Haffa of the Cairo observatory are, however, in disagreement in their calculations by approximately two hundred years, but that is a technical question which has little bearing on the problem itself. At all events the glacial period will last another two millennia. Without doubt it will increase in severity, since the earth's temperature will continue to decrease and will rise only when the sun-rays are no longer hindered by the veil of dust.

"Both scientists mentioned are in agreement that the cloud is of irregular density. The solar radiation will, in short, increase again while we are passing through the thinner layers of the nebula. You already know that the last glacial period, forty thousand years ago, ended, and there is distinct evidence, of long-standing authenticity, that during that glacial period also warmer and colder phases alternated. The same is to be expected in our case, and holds for us some small consolation.

"THERE is no means of withholding the approach of the ice-age or of eliminating it, due to the impossibility of altering the orbit of the earth in space. It is highly doubtful whether it will be possible to counteract the effects of the glaciation on the earth through any measures we now know. Nevertheless, it is our duty to give every assistance in the development of all ideas on the subject that offer any possibility of success; and for this reason that the enormous award of one billion francs has been set aside. The idea of liberating the heat resources of the earth's interior has been mooted. This heat has already been used for industrial purposes. A commission of geologists and technicians is now engaged in investigating this project which appears, at first sight, of slight practicability.

"The question of producing chemical foods has already been mentioned. Experiments on a large scale have been undertaken. The artificial foodstuffs invented by Corella, the South American, had to be prohibited again, as they proved to cause severe digestive disturbances after continued use. We can only hope that our own chemists will meet with greater success; they are doing their utmost."

Mr. Albarnell left the tribune. There was a noticeable lack of enthusiasm with regard to his report, as was evidenced by an unmistakable murmuring and several interjections.

At this moment Mme. Khadija Effrem-Latour proceeded toward the tribune with that elegant energy characteristic of her. She leafed through her notes for a moment, stroked a lock of almost bluish-black hair out of her face, and began to speak in her clear, melodious voice:

"The Senators and Councillors of this country have much to say with regard to the revelations made by the government. In particular we can see no good resulting from an immigration of twenty million Europeans into this country. Many races and many religions are living side by side here peacefully under one flag, and we can hardly say of the inhabitants of the little continent to the north that they are equally saturated with the concept of universal equality. Narrowness has always been a peculiarity of the Europeans and I fear they will hardly throw off this characteristic on coming to our shores."

At this moment the speaker was interrupted by exclamations of approval from Mr. Umararu and Mme. Birrha as well as other representatives from the native states.

"You see that I am far from being alone in this skeptical attitude. We expect the government to guarantee that our guests will not be guilty of violating the limits of good taste.

"Furthermore the government fails to live up to the maxim it teaches to the school-children. 'Nothing should be done tomorrow that can be done today.' The cosmic cloud has, if I am not mistaken, been our unbidden companion for several centuries already, and the billion francs reward could and should have been offered long ago."

At these words Sir Archibald Plug, who had been moving irritably in his seat, could no longer control himself. Like a watch-dog bristling at a passing cat, Plug stirred in his seat as his perennial opponent levelled her shafts at the government.

Archibald Plug was one of the most curious political figures of the country. He did full justice to his name. Archibald Plug consisted of two spheres—a smaller one which was his head, and a larger, from which certain unimportant extremities tried to give the impression of arms and legs. The totality of his structure reached no higher than five feet in spite of Sir Archibald's efforts to create an impression of height by a stiff and upright attitude.

He even made use of optical illusion. Knowing that stripes make an object appear longer than it really is the Hon. Sir Archibald was always to be seen in a suit of vertical striping. Mme. Effrem-Latour had once stated, to the huge amusement of her auditors, that Sir Archibald's globe consisted of longitudes only, though one ought to expect that an old mariner would not forget the latitude—all the more since in his case the width of the sphere played a more important role than the length.

The round face of Sir Archibald was red, like the harvest moon, and its top was ornamented with a crop of white, stubborn hair. To this picture there remains to be added a substantial, well-reddened nose, evidence of his experience in the northern sea, where even in the year 3000 hot toddy still

played an important part; and a pair of eyes that twinkled in perpetual amusement.

Sir Archibald Plug was known as an expert in all matters nautical. For decades he had travelled around the world as a captain on government ships and in the employ of the great mercantile concerns. He had been sent to parliament by votes of the mercantile and commercial interests when, at the age of fifty, he swallowed the anchor for the last time.

He was kind-hearted, humorous and sensible. Being what he was, he always cherished a certain animus against the "sand-flies" as he called them—the inhabitants of the desert districts, the Arabs, Tripolitans, Nilotes, etc., who, in his opinion, played a more important role in the affairs of the country than they were entitled to. This was at the bottom of his fiery, but harmless debates with Mme. Effrem-Latour. As matters stood either would have regretted losing the other from parliament.

"As I said," repeated Mme. Effrem-Latour, "the government should have done something long before with this situation. They knew about it; it has been in existence for centuries. It is a little late to save the world with its billion."

AT these words the white moustache of Sir Archibald bristled, and the words tumbled from his lips:

"Is the honorable member suggesting that we could have escaped from this cloud before?"

"If we all took the point of view of Sir Archibald, it would not be necessary to discuss the prize, since if it is futile, it is as much so today as it was a hundred years ago."

"No. Today we are further advanced in our knowledge and technical attainments."

"I fail to see in what manner."

"Nice of you to admit your lack of comprehension. If there is any other question on which my age can offer your youth advice, I will be most happy to do so."

"Which is, one suspects, the sole advantage you have. I believe wines and cheese also become more valuable through storage."

No sooner had the burst of laughter filled the hall than a range of green signals lit up in warning to the speakers to refrain from personalities.

Thus was Sir Archibald cheated of the deadly riposte he had on his lips. The beautiful Khadija began again and at once caught the attention of the officials as well as that of the Senators and the gallery:

"The minister has stated that thus far no suggestions of methods to cope with the ice-age have offered promise. Is the Honorable Minister ignorant of the fact that an eminent European scientist, a German by the name of Johannes Baumgart, has arrived in our country, bringing with him a plan for the solution of our problem and that he is asking the support of the government?"

"The government knows nothing of this gentleman or his plans."

"The government knows less than the newspapers. The latest edition of the *African Herald* carries all the details of the project. Dr. Rawlinson, the director of our greatest state observatory has already expressed his opinion on it in the same journal, a copy of which I will be glad to let the government have on the payment of ten centimes."

Mme. Effrem-Latour extended the paper toward the ministerial table with a mocking smile. The gentlemen there were somewhat perplexed, Minister Albarnell showing particular embarrassment. The hall boomed with whispered conversation.

"This desert-cat," said Sir Archibald Plug to his neighboring colleague, an old Dutchman, "has dug up another good bone. Devil of a woman!"

The Minister rose.

"Since Mme. Effrem-Latour has obtained special information with which we have not yet been acquainted, I should like to ask her to lay it before the meeting. It is rather singular that the eminent scientist approached the newspapers instead of the government."

"I will be glad to comply with your wish and tell you of the plans of the German scientist. He is of the opinion that on all habitable globes life has taken the same general course and will continue to follow a regular pattern. Even on the moon, he thinks, humans lived in earlier ages. They became extinct by reason of the falling temperature there in combination with other difficulties. At all events they were forced to face the problem of cold for many thousands of years and had undoubtedly discovered means of dealing with it.

"Now if we could only get to the moon, we could find traces of these measures. Very important information which would have a profound influence on our future ought to be available from these extinct Lunarites. He proposes to make the journey in a space ship not unlike our rocket-cars, and for this reason he is asking for government support. A bold conception to say the least. I leave it to our technical men to decide whether it is practical."

The hall was in a turmoil; a vast hum of conversation rose, opinions, ideas and even jokes mingled together. The ministers conferred and Minister Albarnell gesticulated rapidly toward someone whose attention he seemed to have difficulty in attracting.

Meanwhile Sir Archibald Plug had taken up the cudgels again and quite independently of the rest were carrying on their debate.

"Madam, this is a most chimerical idea! If it were not printed in the *African Herald* I should imagine that some Arabian story-teller had whispered it to you in that land of the Fata Morgana which you represent."

"It is not unusual, sir, for people who are behind the time to consider everything new impossible. When Columbus put out into unknown seas, it was freely predicted that he would fall off the edge of the earth, you may remember. When the first railroads were constructed, even quite learned men declared that the passengers would be suffocated by the speed at which they travelled. And today steam railroads have been abandoned because they are too slow.

"And when the first airplanes were invented the inventors were told they were daring the immutable edicts of God and that man could never fly since the Lord had refused him wings. We have been flying for more than a thousand years, sir, and somewhat faster than most of the creatures to whom God granted wings. I stand here now to

predict the time will come when people will laugh at your opinion that we cannot leave the earth, just as we now laugh at the false prophets of earlier days."

"Nobody could live for a second on the moon—even supposing he has arrived."

"A means will be found."

"Not a sign of human activity is to be seen on the moon."

"That is, I submit, a matter for expert decision."

"And I say, in the light of all modern scientific knowledge, that the moon is a wandering corpse, where there is nothing to be found."

"I submit that the honorable gentleman has not been there and knows nothing about it. He must not imagine that because he is the proprietor of a moon of his own that he is qualified to speak on all planetary bodies."

This shaft at the bald head of Sir Archibald again brought forth a burst of hilarity.

"It is a demonstrated fact, madam, that the length of the hair is in inverse proportion to the amount of brains beneath it. May I now add that a journey to the moon would be the means of sacrificing a number of valuable lives without the least result."

"And why should we not stake our last resource in our predicament? Have we not a half-dozen brave men in Africa? Millions of men fell in bloody battles for far less worthy causes in the dark ages; often merely to further the plans of egotistical potentates or pugnacious statesmen. I cannot believe that our country is unable to find men to volunteer, even with the slightest chance of bringing about the end of this calamity. Even I, a poor woman, would be glad to offer my help for what it is worth."

"Permit me to offer to go in your place, madam. Old man Plug is not the man to stand back, even in a hopeless cause. Moreover, it would be a positive delight to make the trip if the honorable member did not accompany the party."

"My compliments, Sir Archibald. I promise to offer you my hand in marriage on your safe return."

The moon-faced little man, laughed through his white moustache and made a biting remark which was lost amid the general hilarity which had taken possession of the meeting, and which not even the honorable president refused to join. But now the green signals demanding silence were alight once more.

Samuel Machai, the Nestor of the ministry, rose to speak for the ministry and Councillors.

"The communication from the Senator have been heard with interest by the government. At first sight the proposal appears somewhat fantastic, but it has always been Africa's ambition to be a step in advance and to push great ideas to fruition before the majority of the world's people consider them practicable. In short, the government will hear the suggestions of the foreign scientist with considerable interest, and will appoint a special scientific commission to investigate his claims. Should there be any prospect, no matter how slight, that the plans admit of realization, and that they offer any prospect of furnishing the key to our problem, this government will not hesitate to grant its support."

An approving murmur ran through the gigantic auditorium. Khadija Effrem-Latour took up her notes and left the tribune.

Half an hour later, the Senators and Councillors streamed from the pleasing coolness of the building into the glowing heat that waved through the streets like the halo above a stove. The white marble steps were covered with the dark spots that marked dissolving groups of people. The thin veil of the fountain descended unbroken; above shone the golden dome, like a yellow sun.

CHAPTER X

The First Warning

"IF you like we can stroll over there to that little grove. There in the distance, by the eucalyptus grove, is Greenpoint. You can see the top of the lighthouse behind that little hill. We can get a gorgeous view there—far out over the sea."

"Yes, let's walk over there, Miss Hawthorn. I don't know of anything I would rather do on this bright morning, with its marvellous air. That is aside from the enjoyment I get from talking to you in my mother-tongue; it makes me feel really quite at home."

"I have never been away from home much, and can hardly imagine the feelings of a person who is aware that continents and wide oceans lie between him and his home."

"Do you know that there is not the least bit of Afrikander about you? You must have inherited all your mother's German nature. A certain contentment in a world created about one's self, if you know what I mean; an inclination for meditating, philosophizing and romance. All that is not at all characteristic of the nation of which you are a citizen. Their chief characteristics seem to be a sharp and rapid comprehension of the practical facts of life, technical, industrial and commercial initiative without much sentiment behind it. Just what you frequently find among migrated peoples who have had to fight for hundreds of years for their place in the sun, either against savages, or with axe and spade against the wilderness."

"I have been conscious of this for some time myself. It is your way of looking at things from a kind of distant perspective that makes me really see them clearly. An understanding of myself has been granted to me over night, so to speak."

"I hope the consciousness of the contrast has not made you unhappy. Your wonderful father and your home are a world in themselves, and between them manage to keep you out of the world."

"Father is the best man in the world, but the business takes up all his time and most of his energy. I sometimes feel lonesome; I have nobody who really enters into my interests. Everybody in this country talks about commercial enterprises, stock transactions, new industrial plants, new machines for using wave-energy, and big shafts being driven to the magma-filled depths in the Cape country to get at the internal heat. They speak of machines, of things that are steel and stone, but never

of the abstract, which exists only in thoughts and which may be embodied in a poem, a rustling in the trees or a bird singing his evening song."

"It is the tragedy of our time and you have not yet fully comprehended its significance, even though you suffer through it. You see, human culture occurs in cycles, up and down, up and down, in mighty waves, like those of the oceans. Crest and base it goes on and the highest wave must at last ebb away into a calm. A whole series of such waves of culture have swept the earth.

"Many thousands of years ago China reached its apogee. Then mighty India, later Egypt, then Greece and finally western Europe—and all these cultures defended their proud positions for eight hundred or even a thousand years, grew like trees, and like rotted stumps died out. The youth of a culture is always an effort toward an exalted ideal—the glorious pursuit of a vision, accompanied by a holy fire of inspiration. And from the fire are lighted the arts; songs and sagas come, works of great masters. Poems in stone rise—high cathedrals that embody the ideas of the true, the just and the beautiful. Such a time is always the great, the golden age, the climax of the culture.

(Illustration by Paul)

The white towering castles of ice were floating nearer. "Slowly," said the German, "the cold is approaching these shores also."

"Then a different spirit slowly sets in. A lust for power leads to martial invasion of neighboring lands, to the founding of great empires on a pile of bones. A craving for fame, riches and abundance luxuries rots the national spirit. Arts, religions and philosophies come to be little valued and materialistic ambitions replace them. Commerce reaches its highest point; there is an age of invention and great industries come into being. The social problem splits every nation into a series of discrete fragments; a small minority of merchant-princes dominate the army of the proletariat, and nations and societies dissolve in furious combat.

"Culture reaches its nadir and dies out, while somewhere else a new branch begins to bear a new

fruit of culture. The whole game begins once more. As the biologist can bring the microscopic to greater animation through higher temperatures, or can bring it to flowering or death by means of its food, so are we, inhabitants of a little star, so are we the toys of an Incomprehensible who makes us dance, marionette-like, at His pleasure."

Johannes Baumgart stroked the lock out of his eyes, staring before him as though he had forgotten that a girl was walking by his side, whom he might confuse by his flood of singular images.

Elizabeth Hawthorn glanced slantwise at the intellectual features of her companion. What man had ever spoken to her before about the problems of the infinite? How deep his knowledge ran, and how vast a view had one through his eyes! She felt as though she had known him for as many months as she had really known him days. How much she had learned merely from hearing him talk the day before. The great atlas by means of which they had intended travelling through Germany, had scarcely been opened. The hours had passed like minutes and her father had smilingly remarked that she would become the most learned of female Senators if their guest continued his historical lectures for a few more weeks. And how thoroughly this man seemed to know the master-mind, Goethe; how he brought hidden treasures from his works!

SHE could have talked to and wandered with him for days, could have listened to him forever without weariness, while he discoursed on humanity and the mystery of life, and on the rise and fall of peoples and universes.

"And, Miss Hawthorn, in this waxing and waning of a culture, in this change through which the human mind must go during such a period, lies the secret of that feeling of loneliness, of complete forsakenness, which you and many another experience. Here and there people in whom the old ideal of culture has been retained through some freak of inheritance, are still living. To them a poem, a sunset, a bird who sings his even-song in the silent forest, or the solemnity which dwells in old cathedrals, mean more than all the technical wonder-works and luxuries of a refined age.

"But the people around you have long since taken the strings from the lyre, and so your heart-strings find no answer. Only a kind of astonishment that this should be so remains with you. The dreamer always feels cold and strange in such a world; it is this feeling that oppresses you."

"You can't imagine how much your words impress me. You seem to hold the true clue to the world of my sentiments. It is through you that I have learned to see myself—strange that the man who was to solve in a few hours all the mysteries that have burdened me for years should come from far away, across mountain and deserts."

"Well, it is not really so astonishing as all that," said Baumgart, with his melodious laugh. "I can put myself into your place all the more easily since I am a similarly unmodern being—a dreamer like yourself. Goethe, whom you so much admire, says 'Thou art like unto the spirit which thou comprehendest.' I reverse the quotation and say, 'Thou understandeth the spirit unto which thou art like.' The difference between us is that I have thought out all these things and searched for their causes, while you have borne them with resignation in the seclusion of your home. There are, between your world of thought and your cold environment, unbridgeable gulfs."

Elizabeth did not answer. Her clear eyes looked into the distance and her heart was full, and within herself her being cried out to the man by her side in a hundred ways. "Yes, indeed, we are of the same spirit; we have always been friends, and only the strange dualism of life has separated us by so long and so far. You are a meteor, curving brilliantly across my sky, illuminating what has always been dark within me, and will presently disappear into far-away space. For long I shall continue to feel the reflection of your light within me—perhaps for my whole life."

The two travellers had reached the rounded hills which fell away to the ocean from the Lion's Shoulders. They were standing in a group of tall trees, looking out on the bright surface of the sea. There was scarcely a wave to disturb the mirror-like surface of the Atlantic. A sleeping giant, there he lay in the soft light of dawn. To the right stood the stone column of the old lighthouse, and out near Greenpoint the white sail of a fishing boat was visible, proceeding toward Three Anchor Bay; while behind them the dark mass of the mountain heaved its black shape against the morning sky.

The dew still glittered on grass and bush; seabirds stalked along the shore, and now and then came some sound that showed the town was waking to the concerns of daily life, like the whistle of a factory or the hum of an electric railroad.

For a long time the two stood looking into the young day across the vast ocean which, far beyond the field of their vision, was breaking on the shores of South America.

"You know it gives one a strange feeling to stand here on the last rim of a great continent and to know that all round us a measureless waste of water extends, separating us from distant continents that bear other peoples and other cultures. Miss Hawthorn, wouldn't you like to go—way out there to unknown South America, or toward the Antarctic ice which gleams under this same sun somewhere in the south?"

"Ah, yes. Sometimes I wish I could go far away, but it is more a desire to escape this noisy, unrestful and somewhat unnatural world and to reach some peaceful shore—oh, some little island with lonely forests and hidden springs where people are still original. But is there, tell me, any such thing left on our planet?"

"Here and there, perhaps, but very little remains of the Islands of the Blessed with their happy peoples. The age of the early explorers and circumnavigators must have been glorious. To go out into the unknown, toward lands, far in the distance, only vaguely outlined, to find undreamed-of treasures and bold adventures—ah that was the age; when the world-maps showed only Europe, part of Asia and northern Africa and those in crude outline, and when every distant country seemed to be inhabited by dreadful giants, strange dwarfs, and misshapen fabulous beings. We can hardly understand nowadays how much courage our ancestors

needed to venture out into this unknown world in their diminutive vessels."

"And how fast everything has changed! A millennium and a half has gone by and now the world is explored to its last corner, and covered by the web of civilization. Distance has been abolished; we cross the ocean in a few days by means of electric ships, race from land to land through the air on the wings of the wind, speak from our own homes with people in India and America, and through the televisor see things that are happening thousands of miles away."

"But all this is no longer startling, since we have learned to see the earth, which once upon a time was so vast to us, in its real smallness. It is only a grain of sand in the universe, indeed an apple inhabited by bacteria. The sun is a million and a quarter times larger than this little planet and yet the sun itself is hundreds of times smaller than other stars far away in space, and our telescopes show us more than two hundred million suns and solar systems, with planets like our earth, up there in the night sky."

"I can hardly think of it without confusion. It gives me the sensation of being smaller than a protozoan in some puddle. It is the stunning of the senses, face to face with the infinite. Do you know the wonderful painting by the Indian painter Rawatami? Called 'The Mantle of God.' In this picture the Lord of Being is floating in the universe. A wide, luminous mantle envelops him in gorgeous folds, its train losing itself into the infinite. The mantle is woven of millions of stars, millions of inhabited worlds."

JOHANNES BAUMGART nodded pensively. He glanced out over the ocean. A point of light, visible far in the south, had attracted his attention. It was neither a motor-ship nor a sail. Slowly, very gently, the shimmering object drifted nearer, driven by the caprice of wind and wave. A sudden shaft of light set it glittering like a star.

"Look! It is an iceberg, coming here from the Antarctic, and there at the right, is another one—and more—far behind a chain of them glittering in the sun. They are the messengers of the ice-age. In former times they never got so far north as these latitudes."

Elizabeth shaded her eyes and looked out over the ocean.

"You aren't looking in the right direction. More over that way—no, there." Baumgart came very close to her, touching her shoulder lightly. His face approached hers, his arm pointing out over the ocean to direct her eyes toward the far-glittering sails of the ice.

She felt the soft pressure of his hand; a lock of his dark hair touched her temple, and she gave a little involuntary tremor.

CHAPTER XI.

A Fantastic Plan

WITH a jerk she brought her attention back from the strange dreamy feeling that gripped her. Yes, she saw the icy wonders, shining like mirrors. Baumgart handed her his glass. The white, towering castles of ice, set with blue shadows, were floating nearer. Strange festoons of huge icicles, hanging balconies, jagged pillars and lofty portals were visible. Sea birds fluttered about the cornices of the floating mountains of ice, affording a basis for realizing the gigantic size of these icy children of the frost, drifting up from the pole. The waves broke slowly around their feet; now and then some long swell sent them swaying and a dazzling set of sunbeams was reflected back from their mirrored surfaces.

"Further south the ocean is filled with these cold, beautiful castles," said the German, "and slowly the cold is approaching these shores also. Who knows what the Cape country will be like in two or three centuries?"

"Which shows how untrue the old saying is, that man has become the master of nature. The apple with the bacteria has been placed in an ice-chamber by an invisible, all-powerful hand and the tiny megalomaniacs must realize that all their ability cannot get them out of it. Tomorrow the great session of the Senate will be held at Zanzibar. I am anxious to know what they will do about it."

"I am as much interested as you. All my future plans depend upon it."

"Does the problem of the ice-age play a role in your affairs as well?"

"It has occupied all my time for decades. That's the reason I'm in this country."

"My father suggested to me that you had something astonishing up your sleeve. He said that the whole world would be talking about your plans but did not go into any details. He said you had asked him to be discreet for the time being."

"That is right. I believe I have found a way to obtain help for the troubles of the world. In a few days I will be able to say more about it; particularly to the government of this country, whose support I am counting on. But the outcome depends a good deal on technical matters, and that is the reason I came to see your father. The splendid flights of the *usambaranite* rockets make me confident about the practicability of my idea."

"You want to penetrate the ice region?"

The German smiled. About his lips played an expression of mingled amusement and irony. He looked into the attentive face of his young companion, and with an air of comical secretiveness, said, "You would never guess."

"Do you want to descend into the middle of the earth and reach the hearth of the eternal fires? I have read about such plans in the papers."

"No, no, you can't guess it."

"Or is it to go down into the depths of the ocean and deflect the Gulf Stream so that its warm waters will provide the shores of freezing Europe with more heat?"

"How clever you are! No, it isn't that either. You are guessing in vain."

Elizabeth Hawthorn laughed. "You are a bad man, I think. Curiosity is the curse of our sex. I'm at the end of my guesses, and quite at your mercy."

"You spoke a while back of landing on far-away shore, where tranquility reigns, and all the noise of our civilization is non-existent. It is to such an

island of the blessed that the *usambaranite* rocket will take me."

"And where is this island?"

"Very far—and yet you can see it distinctly, with your own eyes."

"Mr. Baumgart, you have the faculty of presenting a thing in such a mysterious manner as to make one despair of ever penetrating its secret."

"Why don't you look at the island? High up there it is shimmering in the sunlight."

He pointed with his hand, up into the deep blue of the sky, where the waning moon was hanging, a feeble yellowish crescent.

Elizabeth Hawthorn followed the pointed finger, and saw the round old companion of the earth, paling in the gaining day. She laughed.

"Yes, if one could get up there. But I answer with the words of our mutual friend, Goethe, 'Ah, to the wings of the spirit the wings of the body never can be wedded!' Well, I will come with you to the island of the moon."

"You had better not, for the first time at least, because the journey is still as dangerous as that the first circumnavigators took to reach this cape, or the shores of America, far in the west. But perhaps in a hundred years from now Rackamers & Co., will arrange such pleasure trips for everybody, as they now run them to the South Pole, in the icy deserts of which daring explorers perished centuries ago."

"But now you must really tell me about the purpose of your journey."

"You already know it."

"You are a stubborn joker—on purpose I think. Is this your way of thanking me for bringing you out to Greenpoint on this beautiful morning? Or do you want me, too, to remain in the dark about your plans?"

BAUMGART paused. His face took on an expression of seriousness, and she felt that he was speaking in deadly earnest, when he said:

"I am not making it a secret for you. It is actually my intention to reach this neighboring world, and you will find out all the details during the coming days. What seems to you, and probably to most people, so fantastic today, like everything that is a first step into a closed land, will later on, when once the start has been made and the ban has been lifted, be as much a matter of course as a journey to Australia, a flight in an airplane, or a wireless telegram from a distance."

Elizabeth did not answer. Slowly they proceeded toward the point where they could take the electric railroad to the city. A thousand strange feelings and ideas made her head whirl. No doubt this man at her side was speaking of this journey to a land of improbability in sober earnest. If anybody else had suggested such a thing she would have smiled, and eight days ago she would not have wasted a second in considering a project so fantastic.

But she could see that this was no fantastic dreamer, anxious to startle the public by this bizarre scheme of his, make the newspapers write about him for a while and blow splendid bubbles which would sink in an ocean of ironical laughter after a brief career. Here was the complete man, who in spite of the profundity of his emotional life, avoided the will o' the wisps and dream-wanderings of so many others; the thoughts he was revolving in his brain must, therefore, lie within the realm of practicability.

But then he was a man who wanted to venture for the first time into the unknown, shoreless sea of space, a Columbus of the stellar world.

The thought excited her. The blood was hurrying through her veins, and she could hardly understand how this man was able to walk so calmly at her side, to speak so gently and brilliantly about Goethe, the tranquil beauty of German landscapes, or of other everyday things. Strange pictures ran through her brain in hurried procession. She saw this man mount one of those rocket ships, penetrate the ether to the applause of uncountable millions, disappear into the universe as a point of light. She saw herself in the midst of the bystanders, saw him bid her goodbye with a last squeeze of her hand, and saw for a long time his serious eyes follow hers among all the million eyes around her. Like a buzzing fly, the bright point disappeared into the blue of the heavens. The moon looked down with serious, impassive face; the masses dispersed in all directions amid a whirl of conversation, and she stood alone in the depressing aloneness of the vast plain, staring straight up. Then the skies grew dark, the moon became a glowing red, its kind old face took on a menacing grimace. A point of light became visible amid the immensity of starry space, grew into a flaming torch, burst at an inconceivable height, and the burning fragments fell to earth. A voice called her name with the agony of death in its accents, and a scorched body crashed down beside her . . . .

She swayed and groaned aloud.

"What is it, Miss Hawthorn?"

Johannes Baumgart anxiously took her hands. She woke as though from a dream and lowered her head in confusion. Her foot traced a pattern in the loose sand, and a blush covered her face as she whispered hesitantly and almost inaudibly:

"Must it be? Must you, of all people, undertake this journey into that unexplored land of the—inconceivable?"

Baumgart understood what was going on in his companion's mind. He squeezed the little hand caressingly and said simply, "Yes, it must be."

"Is there nobody back home who needs you, whom you love, who has a claim on you, or has the right to keep you from such a venture?"

"No one. Nobody at all. I am all alone. But even if there were people who had such a claim, it would have to make room for the greater one which humanity has on me. Think of the millions of warriors who in former times, fared forth to battle. They too, sacrificed themselves for the general good, sacrificed for an idea. Only a few of them were individuals of education or intelligence, yet they did what they thought their duty. I would not be what I am if I did not do what I must, what the law of my own personality dictates to me."

"And there is no one who can hold you back?"

"No one. Nothing but the mere technical impossibility of my plans, which would then be left for a later, more advanced age, to execute. But I do believe that it can be done with the ways and

means known to us, and everything has been worked out with the expenditure of lengthy and painstaking labor. The technical side has been most carefully investigated and here and there improved. And now it will be investigated once more. Your own father and one of the most experienced engineers of this country will do their share to make the flight into the unknown possible. The unknown is better known that you imagine, however. Don't let my plans frighten you, and don't burden your heart with the thought of imaginary dangers."

"Yet you may say I have a small mind . . . . for I wish there were someone in this world who could persuade you not to go."

"There is none, and there could be none. They would have to yield to higher laws and the higher love—that of humanity as a whole. If they did not understand that, it would personify egotism, rather than love or friendship. Think of Goethe's words: 'With the Gods no one man should measure himself. Should he lift himself upward, nowhere will his feet touch firm ground, and he will become the sport of cloud and wind.'"

"Believe me, I realize the warning set forth in these words, but here it is not to war against the Gods that I strive, but to attempt a deed for the good of mankind, basing it on thorough research. Let me parry your quotation with another from Goethe: 'A God has designed a way for each to travel, down which the fortunate run with speed to the goal. But he whose heart is choked by misfortune struggles in vain against the barriers woven of steely threads through which the bitter shears can cut but once.'

"And now give me your dear hand. I thank you for your kind interest in my fate, and know how to appreciate it. Perhaps the day will come. . . ."

Johannes Baumgart made an awkward movement. He was still holding the hand of his companion, looking pensively into the distance. Then wakening, he stroked the lock of hair back from his forehead, squeezed once more the small, graceful hand, and said:

"Let's say no more about it. What will be, will be, for eternal, iron laws compel us all to complete the cycle of our existence."

The sun stood almost at his zenith. A ruddy veil of dust hung round it. Strange purple clouds were rising in the south and a storm seemed imminent.

The two wanderers proceeded hastily and silently toward the nearby city.

CHAPTER XII.

A Flight to the South

THE sun was already high in the heavens, when Standerton-Quil awoke. He stretched his muscular limbs, yawned long and comfortably, and slowly raised himself in bed. He had not slept so well for weeks. "I'll recommend these rocket trips as a cure for insomnia," he remarked good-humoredly. "At the present it's still somewhat expensive, but in another quarter-century people will have their rockets in the garage, just like an airplane or electric car today."

Undoubtedly this new journey, carrying high government officials to the north, would contribute considerably to the popularization of the new means of traffic and Hawthorn's factory would, after all the lengthy experiments, and model-building, see the fruit of its labors ripening.

He turned toward the clock. His glance fell upon the telephone. The green signal was alight; had been for hours, perhaps. Someone had called. By Jove, it was almost noon!

With one leap he was out of bed. He stepped to the receiver and pushed the button of the telephonograph, which had taken the message for him. The mechanism snorted and in a hoarse voice reproduced the words engraved on its waxen heart:

"Usambaranite Works, Cape Town, called, June 13, nine a. m. Return call requested at earliest convenience."

"Now look what I missed! Wonder what old man Hawthorn wants? Well, let's see.

Without wasting time on his toilet Standerton-Quil set about obtaining a connection with Cape Town; then leaped into the bathroom, disappeared under the shower, blew like a walrus, rubbed his strong limbs till he looked like a redskin, ran the comb through his bristles, and hopped into his clothes. Ujam, his adroit little valet, arrived with the tiny breakfast to which he limited himself. As the engineer was swallowing the first gulp of tea, the green signal came on again.

"Hello."

"Is this you, Standerton?"

"In person, Hawthorn."

"But I have been on your trail for twelve hours, man! Where have you been hiding yourself?"

The engineer gave vent to a rumbling laugh.

"You know I went north in the rocket, taking High Commissioner Ismail Chak. I was dead-tired. Just got home when a trip to Rome was necessary. I got home late last night, slept like a corpse and woke up ten minutes ago."

"Everything go all right on the long trip north? No failures in the steering gear or anything?"

"Everything smooth as silk. The shocks are a little bit heavy yet. I should think the charges could be made still smaller and the number of explosions per second increased; would increase smoothness and diminish shock."

"We'll talk about that later. Now listen, Standerton. Something big has come up; a really important plan. I can't give you the details now. The practicability of the idea depends essentially on your cooperation. You had better come down here and look over the plans, give us your judgment on them, and help us out if you think we can do it. Then we'll get in touch with the government people. Can you come? The sooner the better."

"You make me curious. You must have something quite exciting on."

"It will surprise even you. How soon can you come?"

"I intended to go to the extraordinary session day after tomorrow but if it is so important. . . . I always like a technical problem infinitely better than the most beautiful parliamentary speeches. I can't get away from here before evening, though. A lot of work piled in on me the last few days. I'll get that out, take a wink of sleep and start about midnight. I'll take one of the small rockets and arrive by tomorrow noon. There will be moonlight

and I can make top speed all the way. I have no doubt that old Kowenkott, who is the best mechanic in Africa, will be tickled to drag the iron horse out of its barn. The more adventurous the better is his motto. He's mad at me now because I didn't take him along on the northern trip."

"Excellent. So I'll have you with me for dinner tomorrow? But be prepared to stay a few days, Standerton. We have a lot to talk over. And now I won't hold you up any longer. So long."

"Good bye."

The green signal went out.

Standerton-Quil never did spend much time over his breakfast, but this time he broke it off even after the first cup of tea, and stormed past the startled Ujam, who had appeared with hat and cane. In passing he dashed his fingers through the careful coiffure of the black boy, threw him a pack of cigarettes and leaped into the descending elevator. New engineering plans! He lived for them, and this time it must be something great, for Hawthorn did not become excited, and would not make anyone undertake a nocturnal journey of two and a half thousand miles, without something worthwhile at the end of it.

The day passed more rapidly than Standerton would have liked. Kowenkott, whom he had notified as he left, was cleaning the great projectile at the airport with loving care, preparatory to its blazing departure through the moonlight. He gave all the mechanical parts a careful inspection, put the long barrels with the tiny explosion-charges into the automatic feeder and cleaned the exhaust. Then he rolled the craft back into its hangar, closed the gates and lay down on a mattress beside his beloved rocket to get a little sleep. Sharply at twelve Standerton knocked at the gate. He wound the map with the direction index, tested the compass, saw to the batteries for illumination, and with the assistance of Kowenkott, rolled the vehicle up the starting-ramp into the open. Ten minutes later they were rattling into the air like a minor thunderstorm, sending the catapult back into the hangar with a crash.

SHAKING his head, the old watchman looked after the rapidly disappearing vehicle. The world was growing crazier every day. He would not have entered that new machine to save his neck. For him the comfortable old airplanes were good enough; but of course, the world was progressing and things had to change now and then. Like a tiny shooting star, the rocket vanished from the old man's field of vision. He closed the gate of the hangar grumblingly. At a great height the strange bird flew along, dragging behind it a dim white trail of smoke-puffs.

Standerton-Quil stood motionless on his navigating bridge, looking out into the darkness. The lights were turned down and the stars gave him all the direction signals he needed. Far below lay the land, invisible in the darkness, with great cities indicated here and there by little patches of light. Off to the east a dim gleam betrayed the presence of the immense surface of the Indian Ocean. Straight ahead in a chain of mountains the long thin shape of Lake Nyassa was visible.

A dim glow hung in the heights, across which drifted thin violet veils. They were dust-masses, even now touched by the rays of the sun, refracted around the edges of the globe. The stars had acquired a deep green hue. They looked like emeralds at unattainable distances. In the east, brightening the horizon, the waning moon ascended like a luminous gondola from the fog of the plain, which waved to and fro in a ghost-dance of its own. Here and there lay the mirror-like surface of a lake or river. The mountain-chains cast long shadows, and vast forests stood strangely in the misty night. About four o'clock in the morning the wide silver ribbon of the great Zambesi became visible below, and the rocket-car rattled past the foaming masses of Victoria Falls.

When the rocket glided over the lonely Kalahari, the first rays of the sun were blinking through the window of the control chamber. Soon thereafter they looked down on the torn ground of Kimberly, where long shadows played among the workings of the diamond mines. In the distance rose the mountain-mass which, like a huge wall, defended the flanks of the continent against the assaults of the sea.

Standerton-Quil had directed his vehicle almost in a straight line; only the fewest of steering explosions had to be applied by Kowenkott. The editors of the *African Herald*, enjoying their lunch-time siesta on the roof of their tall building about noon, were awakened by the drone of the explosions and their blinking eyes saw the gleaming rocket car approaching. A few minutes later Standerton's ship descended at the east of the city, beyond the railroad line, where the great airport of the world-famous factory offered every facility for landing.

Hawthorn was sitting at his desk crowded with papers of every description when he heard the rattle of the *usambaranite* rocket. Doubtless it was Standerton-Quil; that gentleman arrived with a punctuality of a personified machine. Hawthorn stepped out on the balcony, around which rustled the treetops. Sure enough, there was one of the glittering, speedy machines. He recognized it from its outline as one of the Mark II, smaller type, cars.

A satisfied smile brightened his features. The painstaking year-long experiments and the immense expenditures had at last borne their fruit. It was his factory that had created the ultimate means of traffic for the year 3000; a method of transportation to which the future must pay tribute, and of which the whole world was talking. And if the plans of this strange German should be brought to realization, if from this spot a man should venture out into starry space for the first time—a new era in the history of mankind would be begun, an era rendered possible through the *usambaranite* rocket, with which the name Hawthorn would be associated until the end of time.

At this moment his daughter was walking down tree-lined lane with her interesting guest. Hawthorn waved to them. Seeing the two side by side deep in each other's discourse, he thought how well they were suited to each other. Well . . . . one could but see. Both seemed interested, and "whom God hath joined let no man put asunder."

Elizabeth waved back with a newspaper she held. When within hearing distance she shouted, "Fath-

er, here's something terrible. Mr. Baumgart wants to speak to you."

The latter hurried forward with a somewhat ill-humored expression, lifting his hat respectfully enough, but a certain air of distrust was apparent in his manner.

Hawthorn spoke.

What's so terrible, my child?"

"An indiscretion, father. Are you too busy to listen to us now? It's really quite important."

Hawthorn looked his astonishment. What in the world could be wrong? Aloud he said, "Why, certainly, I am at your and Mr. Baumgart's disposal this very moment. Won't you please come up?"

An indiscretion? What could it be? Certainly, nothing important about the factory. But hadn't Elizabeth said that this Mr. Baumgart—? And he did seem a trifle indignant. Could it be in connection with the German's plan? In any case, his own hands were quite clean as far as indiscretions were concerned. Was any man alive able to reproach Hawthorn with the slightest abuse of confidence?

A KNOCK at the door.

"Come in, please."

"Good morning, father."

"Good morning, my child, and good morning, Mr. Baumgart. I hope you enjoyed your walk. But I also notice that you are a trifle disturbed. Please be seated. And now, what is it, my child, about the indiscretion?"

"Here, father. Please read this."

Hawthorn took the morning edition of the *African Herald* from his daughter's hands. A staring scarehead read as follows:

SENSATIONAL PLAN OF A FOREIGN SCIENTIST TO SAVE HUMANITY — JOURNEY TO THE MOON—HELP FROM THE LUNARIANS—SUPPORT OF OUR GOVERNMENT REQUESTED—SCIENTIST ARRIVES IN CAPE TOWN

"What is this?"

Hawthorn, with a troubled look, sank into his chair.

"Please read this, father. Mr. Baumgart says that the entire confidential interview which he held with you on the first day of his visit is quoted here in a condensed form, slightly distorted, and without technical knowledge, but showing clearly that the information must have come from this office."

The manager of the Usambaranite works read hastily through the account. The wrinkles in his forehead deepened as he read, but there was an expression of proud fearlessness on his face as he stepped toward his guest.

"Mr. Baumgart, we are face to face with a mystery. I trust that my word is sufficient assurance that I have not the faintest idea how the plan you confided to me got into this paper; and it goes without saying that I have discussed your ideas with no one, not even my own daughter. Even when calling Standerton-Quil (who, incidentally has just arrived) on long distance I have avoided the faintest suggestion. This should be sufficient."

"The word of a gentleman is quite sufficient, Mr. Hawthorn, but you will understand that the mere fact of the thing getting into print, and even more so, the mysterious circumstances, are particularly embarrassing to me. You and Miss Elizabeth are the only persons on this continent who know anything at all of my ideas, and I am perfectly sure of my two friends in Germany. The mystery is, therefore, really very alarming, and it must be so for you also. It means that your walls are no longer sound-proof, and you cannot be sure in the future that some important trade-secret of your plant will not be bruited about in the streets tomorrow."

"You are right. It could only have been some eavesdropper who caused the leak and I shall institute a strict investigation. I regret most deeply that such a misfortune befell you in my office, and I shall do all I can to remove the disagreeable consequences. First of all, we must try to find out whether our people here think your plan a good one, and then you must submit your suggestion to the government without the slightest delay—if possible, today."

Baumgart rose and shook the old man's hand. "I thank you from the bottom of my heart," he said. "The article itself has done the idea no real damage, but it must appear to your government as very tactless to inform the newspapers before coming to the people I am asking for support. Furthermore, among the portion of the public capable of forming a reasoned judgment, this sensational and superficial presentation will not induce confidence in my idea."

"Quite so; and there the danger lies. We had to suffer a similar setback before, when the papers brought out the first reports on our rocket-cars. Well, my word at least has some weight with the government, and I will arrange to have the matter cleared up as quickly as possible. Moreover, the laws of our country, which impose high penalties on such damaging indiscretions, are on your side. But we must not forget that the *African Herald* is a powerful force in itself, and we must avoid making an enemy of it."

A knock at the door was heard.

"Come in."

Standerton-Quil's imposing figure appeared in the doorway. At the sight of Elizabeth and the stranger he bowed.

"Well met, Standerton. Here, Mr. Baumgart, is the man of whom I have already spoken. A considerable portion of the success of your idea depends on him. He is the co-designer of the rocket flying ship and one of the most outstanding engineers of the country. At present engaged in the utilization of subterranean heat in the service of the government."

Johannes Baumgart looked into the cool, energetic face of the man who stood before him, tall and strong like an oak. His clear, penetrating eye, the steadfast, resolute expression about his mouth, the deep vertical furrow of thought above his nose, his studied movements, bespoke the man of action. He was evidently one who looked at life from a realistic standpoint without allowing sentiment to enter his calculations; who carried out any plan quietly and resolutely, and who rejected all plans calmly and decidedly when they appealed to him as hopeless.

Baumgart felt him a man to be trusted; such a man would be just the character to furnish the technical background for his plans. A dreamer or enthusiast would have been useless; for the plan itself was so fantastic that it demanded execution of the most cool and matter-of-fact sort.

The two shook hands. Each of them sought to solve the riddle of the other's personality at a glance.

"In Mr. Johannes Baumgart, who arrived from Germany, a few days ago, you are meeting the man whose ideas will keep us busy for several days and perhaps for the rest of our lives. Let it be sufficient for the time being that he is a famous scientist, particularly interested in astronomical and cosmic research. I have been studying his plan for two days, and the condensed report which he will submit to the government, and you will have ample opportunity to do the same and form a picture of what he is trying to accomplish. For the present, Elizabeth will administer to the needs of the corporeal man. . . . Standerton has been racing around up there in the skies for days, and has solid ground under him only now and then. So rare an occasion ought to be suitably celebrated."

Elizabeth extended her tender little hand to the giant in a manner frank and unembarrassed. They were good friends, Standerton-Quil having worked for many months at her father's factory while the first rocket-ships were under construction. He had been an almost daily guest, but there was no relationship between them other than the Platonic. His brain was too much a technical laboratory and his heart too closely interwoven with his machines and models for anything else.

Subconsciously she drew a comparison between the two men standing beside each other. Sharp as the physical contrast was the spiritual difference was fully as strong. But she realized that the tremendous plan of Johannes Baumgart, whose dreadful end she had visualized in so cruel a way during their morning walk, could be crowned with success only if the technical ability and icy calm of the huge engineer built and directed the machine with which the plunge into the infinite was to be attempted.

A moment later the idea of secretly persuading the engineer to withdraw his support from the adventure which might bring Icarus' fate upon Baumgart, shot through her head. But then she realized that it would be insanity for her to approach such a man as Standerton-Quil with her girlish cares. He never would have understood them and she would have laid bare the most secret emotions of her heart to no purpose.

She left quietly to prepare the table.

CHAPTER XIII.

An Important Conference

A HEAVY storm was gathering over the cape. The wind howled across the city from the ocean; blue-black clouds piled high, and already in the early afternoon, the sun's rays had been replaced by artificial lights. Nw and then the thunder rumbled, and finally sheets of rain announced that the beauty of the day was spoiled. These enduring, heavy downpours, mixed with considerable masses of dust, were coming more and more frequently of late. In northern Europe they had become a matter of course, and it was beyond doubt that the cosmic cloud was responsible for the phenomenon.

Edward Hawthorn appeared in his butler's pantry.

"I shall have a very important conference on tonight, Brown, and I expect it to take up most of the night. I shall not be at home to anyone. Furthermore all telephone lines are to be disconnected. Take down the calling number, but strictly refuse to make any connection. Take good care of Kowenkott, the mechanic, and see that he has all the comforts and diversions he wants. Tomorrow morning, I will speak to him in person, but for tonight he will have to excuse Mr. Standerton and me."

Old Brown nodded silently. He was used to executing the wishes of his master with unconditional accuracy. Hawthorn went on up into his office. Outside, the rain rustled and the wind whipped the trees to and fro. He switched on the light, secured cigarettes and a few good bottles, arranged the deep club chairs around the big table, and glanced over the afternoon's mail.

Baumgart and Standerton arrived together at four o'clock. The engineer was carrying the German's report under his arm. Enveloped in dense clouds from his beloved pipe, he had perused it from the first word to the last with increasing interest. It was, indeed, a daring and original plan. Carrying it out meant earning immortal fame, and losing the game meant losing life itself. A thousand difficulties, never before surmounted, remained to be overcome, and even the most insignificant details had to be brought out. What people called courage was a matter of course to Standerton-Quil. But he hated rashness, which is the enemy of every great accomplishment. He must begin by acquainting himself with all the possibilities in the coming interview.

No unnecessary words were exchanged. They seated themselves, secured something to smoke and a sip of wine, and without formalities Hawthorn began the discussion.

"You have read our guest's prospectus, Standerton?"

"With the most careful attention. Permit me, Mr. Baumgart, to make an introductory remark right here to explain my position in the matter. I am a practical man, an engineer, no more. I can follow your ideas only from this narrow range. Whether your theory is correct, whether your speculations regarding what you hope to find on the moon are justified, and whether humanity really will derive advantages if you succeed in attaining your goal, I am in no position to judge.

"Much of this holds very little interest for me. To me, the only question is the purely technical side of the plan. If you wished to deposit a package of sewing needles on the moon, I would offer my services with the same eagerness, because it is the technical problem that arouses my ambition. The technical problem is whether it is possible to reach this neighboring world with our new *uaambaranite* vehicle. Of course, the success will be all

the more appreciated if humanity is the gainer through your enterprise; but the technical problem remains unchanged whatever the result."

Baumgart smiled. The man spoke exactly as he had expected him to.

"I thank you for the explanation of your concept of the plan, Mr. Standerton, and I may add that I could not have desired anything better. Every one of us must perform his particular share in this difficult task, and the technical man who loses himself in astronomico-philosophical theory, which he could consider only in a dilettante spirit, would not be the man we need. Build the space-ship with the aid and support of Mr. Hawthorn, guide it to its far-away destination, and leave the rest to me."

"Very good, but now permit me a question. It is the most important question of all: how do you intend to test the power of your vehicle."

"Well, we shall make a trial trip before the beginning of the expedition proper, and we will carry it far beyond the atmosphere of the earth. There is no great risk in that. We will be able to tell immediately how our craft works. Then we will glide down quite easily to earth."

"I quite agree. Such a trial trip is indispensible. Now do you believe that this journey will be possible?"

"Before giving an opinion on that I should like to question you about a number of details concerning the distance to be travelled, the amount of time the journey should take, and so forth. Until then I can hardly examine the technical possibilities. You will permit me to make notes of the figures you give me, I hope? I will have to look them over and check up on them more at my leisure, to eliminate any possibilities of error; for a very slight one might be fatal."

Baumgart produced a notebook filled with mathematical formulae, figures and diagrams written in his narrow, neat hand. He drank a sip of wine, placed his cigarette in the ash-tray and began:

"You know that the moon is the heavenly body nearest the earth. The distance is a comparatively small one, astronomically speaking. We know today that the moon is a daughter of the earth; the substance of which it is formed was loosened from our planet unthinkable ages ago, while the earth was still a red-hot sphere; and broke loose because of the rapidity of the earth's rotation on its axis."

"In other words we know that the moon is made of the same materials as the earth, if I understand you aright."

"CORRECT, Mr. Hawthorn. The distance between moon and earth is known with great accuracy. It amounts to 384,435 kilometers, and we are quite sure that we need allow only 50 kilometers of error, a figure which makes very little difference for our problem."

"Three hundred eighty-four thousand, four hundred thirty-five kilometers," repeated Standerton-Quil, taking the figures down in his notebook.

"Right. And this distance is comparatively small. Thirty earths, placed in line would fill the gap. The bullet of a hunting rifle would cover the distance within nine days, and almost all our sea-captains have covered longer distances over the ocean in the course of their lives. It is only the preconceived notion we have about bodies outside the earth that gives us the idea that an impossible gulf lies between us and the moon."

"Permit me to interrupt with a little improvised calculation. The velocity of the Mark I *usambaranite* rocket is 500 kilometers an hour. It would therefore take 769 hours to get from here to the moon with this vehicle—that is 32 days."

"You are correct, but the velocity of the rocket in space would probably be greatly augmented over its speed in the atmosphere, for the substance of the cosmic cloud is far thinner and thus a good deal of the resistance to the motion of the vehicle is eliminated."

"Unquestionably. Nevertheless, let us base our calculations on the most unfavorable case possible to be certain of having an adequate factor of safety."

"That is a thoroughly sound principle. But the vacuum of space and the absence of air on the moon itself must play an important part in all our calculations. We must depend on what air we can carry for the whole journey; like a diver working at the bottom of the sea. For this reason, I consider it worth while to bring the point up now."

"That is another thing that will have to be tested out to its last detail and rehearsed weeks before our start," interrupted the engineer. "We will have to lock ourselves in an evacuated testing chamber for days, as they do in the diving schools, and finally for a week or more. Anyone unable to stand it will be ineligible to join the expedition. But there is another question. Tell me, Mr. Baumgart, how about the weight of objects at the moon? So far as I know, the moon is considerably smaller than this planet, and consequently everything is considerably lighter there. This is naturally very important when we come to consider the return trip from the moon. I will require very careful information on that point in order to make my calculations."

"The conditions are these, Mr. Standerton—our satellite bears about the same relation to the earth that a cherry does to an apple. The diameter is four times smaller than that of the earth, and one could make approximately forty-nine moons out of our planet. All objects are therefore, much lighter there, because the smaller body does not exercise so great a gravitational pull. A six-pound weight weighs only one pound on the moon."

"And since air resistance also is eliminated, it would be much easier to start the rocket from the moon than from the earth, just as it is easier to pull a little steel spring from a small magnet than from a large one."

"As you say."

"Now suppose we reach the moon. How long would we have to remain there?"

"There are very definite limitations to that, as we are menaced equally by heat and cold. As you know every point on the moon's surface has sunlight for fourteen days, and then night and extreme cold for another fourteen days. Since there is no protecting and balancing atmosphere, the sun beats down mercilessly on the dead stones, so that the heat may well reach 150 degrees Centigrade, or 302 degrees Fahrenheit. During the moon's night the surface radiates its heat into cold space very rap-

idly, and is then exposed to interplanetary cold, which is, as you know, about 273 degrees below zero, Centigrade. We must expose ourselves to neither extreme."

"Now," said Hawthorn, "I am really anxious to know how you purpose to accomplish it."

"It's comparatively simple. We will have to make our landing on the moon at a point where day and night meet; in other words, where the sun is just descending. Then we will have a few bearable hours before us. When the cold becomes impossible, we will have to move on and make a new landing at the point to which the sunset has gone. But perhaps the first landing will be sufficient to tell me what I hope to discover."

"At all events, our sojourn there will not be extended beyond two or three days, will it?"

"Positively, no."

"Good. Now, another particularly important matter. You understand we will have to use liquid helium for the cooling of the combustion chambers and exhausts, which would, otherwise, become white-hot in no time. I am afraid we won't have space enough to carry a supply sufficient for so long a journey."

"You won't need a single bottle of the cooling fluid. Remember that space has a temperature of 273 degrees below zero. We will be travelling in an immense refrigerator, the temperature of which is even below that of liquid helium, which only gets down to 268 below. We shall need the heat developed in the combustion chambers, in fact, to keep us warm."

"Excellent. You seem to have planned everything. Now permit me to glance over my figures for a minute."

STANDERTON-QUIL began scattering formulae and figures across his scratch pad. His companions watched him in silence until he put down his pencil.

"Listen to how things look from the engineering standpoint. The journey to the moon will take thirty-two days. Our stay there, three days, and the return trip another thirty-two days. All told, sixty-seven days. To be on the safe side, let's assume seventy days. Naturally, we will have to have a double engine-room and control chamber crew. This means at least four persons. You yourself remain outside the calculation and are a fifth passenger. You, like the rest of the crew, will have to be trained as steersman and mechanic, to give us a hand in case of emergency.

"I have set down what the five people will need in the way of food, clothes, blankets, utensils, compressed air in steel tanks, etc., and I have also calculated the total weight for these requirements. Beds, which are usually eliminated in short trips here on earth, will have to be added. Furthermore, there is the question of how much explosive we will have to carry. And finally, here is the total weight deduced from these figures. It exceeds, by a considerable amount, the capacity and pay load of our largest rockets. For this reason alone, if for no other, the construction of a larger and special vehicle is necessary. It would also be advisable to make the supporting planes larger and to install a heating system which would lead the heat of the combustion chambers to the other parts of the rocket. In short, the building of a special vehicle is a primary requirement."

"I though as much," said Hawthorn, "and it can only be accomplished if the government foots the bill. I have no doubt about their doing it after having been convinced of the practicability of your plans, and of the possibility that your theory with regard to the moon's past is correct. It remains for you to convince them. We will support you in this task with all our resources."

"So you believe, gentlemen, that the journey might be a success?"

"At all events, it is worth trying."

Standerton-Quil remained silent. Johannes Baumgart looked into his enigmatic, vigorous face. He realized that everything depended upon this man's decision. Standerton-Quil looked straight into emptiness; then made a sudden gesture.

"I am willing to support your plan. What you will find on the moon is almost immaterial to me, but I place myself at your disposal because the engineering side of the question interests me. It would open an entirely new epoch of human activity. A task for Copernicus—a deed for Columbus. Standerton-Quil has little to lose here on earth. I will steer the moon-rocket in person. My hand on it."

The three rose and shook each other's hands. The engineer was as calm as before, but across Baumgart's intellectual features passed a faint blush of delight."

"Really, gentlemen," said Hawthorn, obviously excited, "This is an important occasion. A great event in the history of mankind is taking place in my humble home. Let's celebrate it with a good drink. In wine is strength and spirit and we shall need both in our enterprise."

He filled the glasses and they toasted each other.

"There are still a thousand details to be thought of and tried out," remarked Standerton. "I shall have to work hard and carefully, lest some ridiculous triviality bring us to failure. In case the government consents, I shall have to resign my present position and devote all my time to the great task."

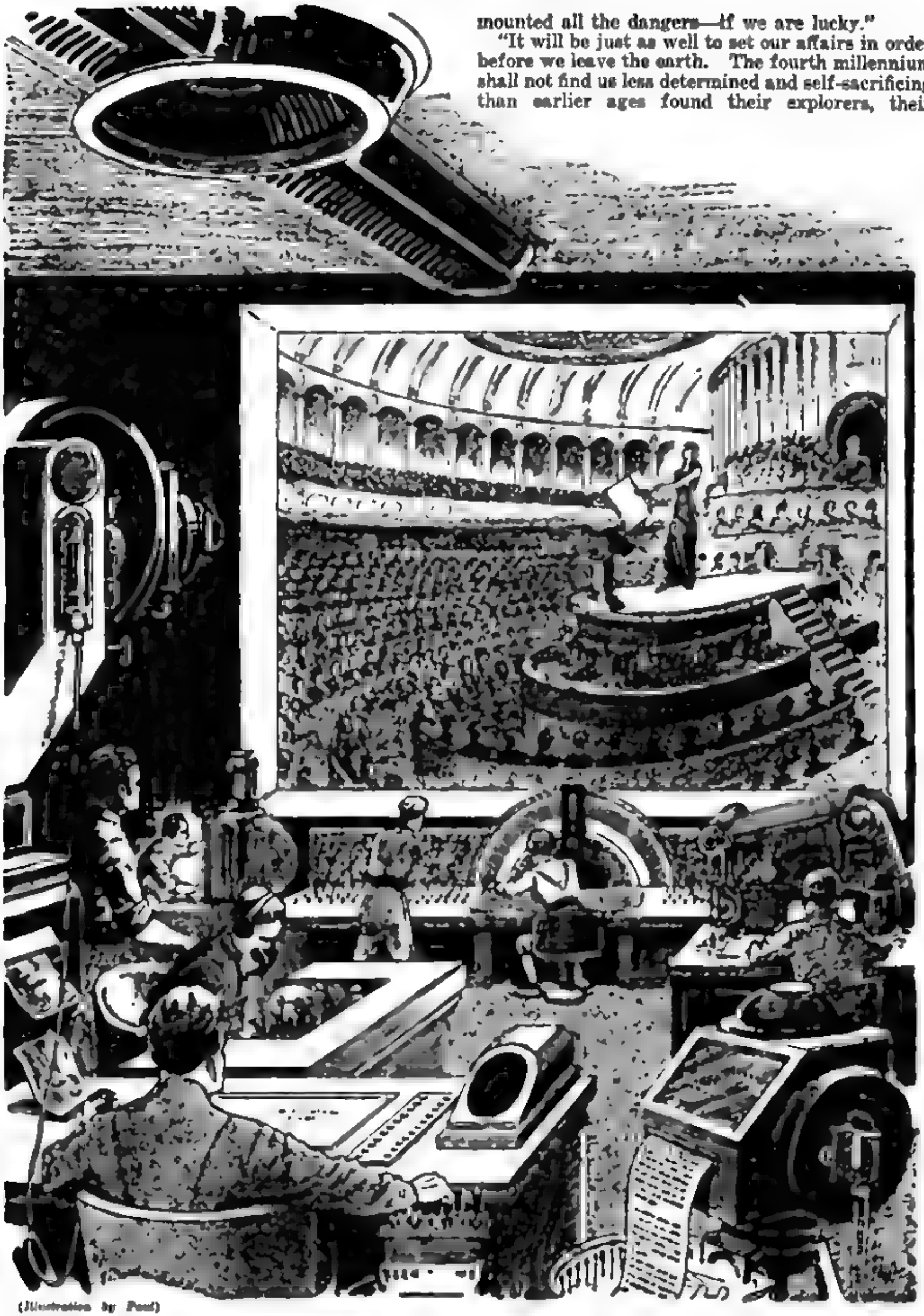
"I must speak to you about many of the details yet, Mr. Standerton. We will have to go into all the conditions and difficulties surrounding the journey one by one. First there is the start from the earth, then the trip to the point where we enter the moon's field of gravity. At that moment everything will change, for up to that moment we will need power to place distance between ourselves and the earth. When the moon's attraction begins we will fall to its surface with ever-increasing velocity."

"True. And from that moment on we will have to turn the vehicle round, pointing toward the earth, and decelerate our fall by retarding explosions. That is another thing that will have to be gone into, and the interior equipment of the rocket constructed accordingly."

"Then there is the landing on the moon—a moment of great danger, I would say, for we must avoid damage to the machine. Later there will be the start and the journey to the point where we enter the earth's gravitational field again, and finally the landing on our planet after we have sur-

mounted all the dangers—if we are lucky."

"It will be just as well to set our affairs in order before we leave the earth. The fourth millennium shall not find us less determined and self-sacrificing than earlier ages found their explorers, their



(Illustration by Paul)

Electrical impulses were arriving over a net of wires. Picture after picture was produced and dispatched to the art department.

missionaries or their soldiers."

"Well spoken, Standerton! So let it be. If you like, I will show you the calculations I have made on these problems."

The gentlemen seated themselves again. Maps and charts, graphs and mathematical formulae soon covered the table, and all the details of the proposal were discussed from every angle.

Far into the night the three sat around their table. Outside the rain rustled incessantly, and among the trees the powerful new lighthouse on the cape blinked its message every two seconds. . . .

When Hawthorn returned to his bedroom he saw a shaft of light from his daughter's room lying along the floor of the rug-paved hall. He knocked gently at the door. Elizabeth opened it.

She looked into her father's face, flushed with excitement, as he entered and took her in his arms.

"You are still up, my child?"

She pointed to a book, lying open beside her chair. It was volume I of Baumgart's "Universal Law of Life and Death."

"Father, what a man he is! A master-mind. I could sit here till morning, wandering through the world of his thoughts."

"My child, a great idea has had its beginning in our house. As yet, its full significance is hardly conceivable. Standerton-Quil thinks the journey possible and he himself will steer the space ship to the moon."

Elizabeth lowered her head. So the thing that had seemed inconceivable was to come true after all. A wave of sadness swept over her. The vision of destruction appeared once more before her mind's eye. She was standing alone in a wide field; a burning body was tumbling downward, a voice of agony rang from the dark heights, calling her name, and the charred remains fell to the stones, close beside her.

Her arms sank limply to her sides. She was seized with a tremor and tears appeared in her eyes. She lay her head on her father's broad chest.

The old man suddenly perceived, in some indistinct way, the thought that was passing through the mind of his child and a shadow fell on his delight.

He silently stroked his daughter's hair. She pulled herself together, squeezed his hand wordlessly, and Hawthorn left the room, almost as though he were afraid to make a noise.

CHAPTER XIV.

A World in Ferment

IT was a great day in the editorial offices of the *African Herald*. The ten-story building with its elaborate decoration and its white tiles, glittered in the sun like a flood of molten steel gushing from the converter. People swarmed about the place, dashing in and out, where the great color-presses were hammering, the air hissing through the pneumatic tubes, the wireless machines rattling, and the long distance telephones bringing important messages from all over the globe.

Benjamin Graachten himself was in Zanzibar and had, since sunrise, telephoned half a dozen "impressions". No one could be sure of the "Marabou" for a single moment. Sobel, the managing editor, snatched at his hair, and raced to and fro with fluttering coat-tails. Presently he was in the telephone room, where long phonograph cylinders were taking messages automatically.

The "impressions" of Graachten and the speeches of the president, the ministers and the representatives, far away in the parliament at Zanzibar were transferred here by the telephone. The cylinders were despatched to the type-setting rooms by pneumatic tubes; there the speeches were revived and transmuted into type.

"Speech of the president, second cylinder," remarked the young lady at the beginning of a cylinder. She opened the pneumatic tube to composing room No. 4, and with a hissing sound dismissed the object into the depths.

"How many altogether," asked Sobel.

"Twenty-three so far."

"Has Ismail Chak's report—or rather that of his secretary, Hamadan—arrived yet?"

"Not yet."

"It's about time," said Sobel, mopping his dripping forehead with a handkerchief and rushing away. A few seconds later he appeared in the telephotography department. Electrical impulses were arriving here over a net of wires; impulses which had originally been light at the far-away starting point and which, through selenium cells had been transformed into impulses of varying strength according to the shape and brightness of the pictures in the distance.

These wires led to a huge screen of frosted glass behind which burned thousand of tiny bulbs, operated by the current which came through the wires from far away with the speed of thought itself. Each one of these little lamps illuminated a tiny section of the white screen, glowing feebly, strongly or going out altogether according to the brightness of the picture at the starting point in Zanzibar or elsewhere. Thus a multitude of ever-changing, bright and dark little spots were reproduced on the screen, which occupied a whole wall in an enormous dark room. They reproduced the very picture which at the point of origin had been caught by the eye of the selenium transmitter.

A motion picture camera photographed this screen incessantly. Picture after picture was produced and dispatched to the art department from whence it proceeded to the engraving department after a few moments, and in another hour or two it was printed and in the hands of the readers. At times the pictures were seen by distant readers before the citizens of the place where the events were transferring.

Sobel blinked his short-sighted eyes and focussed them on the screen. The picture presented was somewhat indistinct; it showed the interior of the parliament hall and the speaker's tribune. A beautiful woman was speaking, accompanying her words with active gestures; in one hand she seemed to be waving a newspaper, but the precise details were not discernible. In the background Cornelius van Zuylen, motionless in his seat, was visible, his white hair forming the brightest spot in the picture.

"Have the pictures of the arrival of the president and councillors gone to the art department yet?"

"Yes, half an hour ago."

"Is there a picture of Mme. Khadija Effrem-Latour among them, and is it a good one?"

"It's perfect. She stood for some time at the foot of the stairway in conversation with another lady. The president's picture also is particularly good. There must be bright sunlight in Zanzibar; everything is clear and contrasting."

"Good. Did you get Mr. Graachten, too?"

"He got there a little late; came with secretary Hamadan. Good picture. He saw the camera and turned toward it, lifting his hat. Then the telephone department switched the picture over to the interior of the chamber and we couldn't get any more of him. He'll be annoyed about it, you know how vain the old man is, Sobel."

"Sobel! Soo-bell! Good morning, for the fourth time. This is a big day for us, Sobel. Huge sensation in the senate. Mme. Khadija has stuck the moon affair article under the ministers' noses. Sobel, man, imagine the *African Herald* getting the story before the government! Get it into the noon edition right away. Got that? Good. Have you heard about the billion francs for a good idea on beating the cosmic cloud. Use that as your lead and head—'Billions for brains' or something like that. I'll have to ring off now, Sobel, the government is after more information about the German and wants to know his address. So long."

THE overworked editor fluttered off again to give the copy-desk Graachten's instructions.

Airplanes were landing on the big roof of the Herald Building, messengers dashed about, fast autos were racing through the streets, artists, writers, reporters and Senators, unable to get to the session for one reason or another, were obtaining first-hand information. Again and again new pictures, long distance calls, wireless messages, reports, impressions and speeches rolled in until the moment of going to press arrived and all further details were held for the next edition.

Sobel threw himself on the couch in his office, cut off all communicating apparatus and slept the sleep of the just. The sub-editors one by one meandered up to the roof-garden in their shirt-sleeves, where they lolled about in the comfortable chairs, smoking cigarettes and cursing all the electric apparatus that glittered about them. They had an hour for recuperation during which no news was racing along the wires of their nerves and no new picture registering on their brain-cameras. For that one hour they lay in the sun, day-dreaming.

Meanwhile, down in the press-rooms there was a prodigious rattle, hum and clash of presses. Three million copies of the *African Herald* were being prepared to descend on a waiting world. A small army of young and old, white and black, was already congregated in the side-street, waiting for the bundles of papers which would pour from the delivering apparatus like water from a faucet. Soon the whole troop was racing like a paper hurricane through streets, railroad stations, offices, apartment houses, stores and restaurants.

Airplanes swung off with their loads of papers, to drop them in other cities, thence to return for a new cargo. High-speed electric railroads carried more bundles into the distance, far away to the quiet lakes and the loneliness of the tropical jungles, to the pasturelands of the plains and to the torn canyons of the mining districts. An ocean of paper was flooding the whole continent, and fast vessels carrying more to other continents.

* * * *

When the first copy of the issue arrived at the Villa Hawthorn where the three gentlemen were again seated around their table, intent on their discussion, it created a sensation. The manager of the Usambaranite factory glanced hastily over the still moist sheets. Headlines glared at him:

GREAT SESSION OF THE SENATE AT ZANZIBAR

Speech of His Excellency, the President — Greetings from the President of Europe — Immigration of 20,000,000 Europeans — Billions for Brains — Mme. Effrem-Latour Supports German Scientist's Plan — Expedition to the Moon Planned — Government Will Consider Plan — Feelings High in Zanzibar — Heavy Rains and Snows in Europe.

"Gentlemen," said Hawthorn, pleasurably excited, "the indiscretion which revealed our plans may not turn out so badly, after all. Imagine! They have already considered it at the extraordinary session, and the temperamental Effrem-Latour has laid a lance in rest for you, Mr. Baumgart. Congratulations seem to be in order; Khadija is one of the best brains in Africa. Now let's see what happened in Zanzibar while we were going into the technical side of our problem yesterday."

He unfolded the paper and read the almost word-for-word report of the extraordinary session.

Johannes Baumgart listened attentively. How strange that of all people, a woman and daughter of the desert should be the first person publicly to favor his plan—a woman who had never met him and of whom he knew nothing. Standerton's deep laugh over the debate between the senator and Sir Archibald Plug roused him from his reverie.

"This Plug is the limit. He would be perfectly capable of fulfilling his promise and going with us to the moon; and he would be far from the worst man for the job. An old, experienced navigator, he would make a good steersman and substitute for me. He was one of the first men to make a flight with me in the rocket-car on the long trip across the ocean and he knew just what to do about navigating the craft."

Hawthorn lowered the paper. "Here's a picture of your spokesman. A dangerous beauty, young and agile like one of those desert cats, and probably just as easy to deal with."

Baumgart inspected the picture. He had expected a woman of the elderly, serious type—instead he beheld the portrait of an elegant young beauty, with refined features and clever, bright eyes. Had he foreseen that he would meet her in a few hours it would have both disquieted and confused him. He fell into a brown study. By this time the Zanzibar government must have received his telegram explaining the account of his ideas in the *African Herald* as a betrayal which had come about in some inexplicable manner and asking permission to submit his plan there in person. The summons to Zanzibar might arrive at any moment.

And as a matter of fact, the government's request was on hand by the second hour of the after-

noon, as Baumgart was returning from an inspection of the Usambaranite Works with Hawthorn. Albarnell, Minister of Science, had taken it upon himself to invite him. He had already discovered the residence of the German through Benjamin Graachten, and the arrival of Baumgart's telegram gave him a welcome opportunity to get the matter started and avoid a second reproach for tardiness and lack of information. . . . The conversation was a long one. Albarnell demanded a brief outline of the chief points involved.

"It is," he said, "my intention to call a special session of the ministry and the councillors, and you will be given an opportunity to outline your plans with greater thoroughness. It will have to take place soon, since a number of the gentlemen are remaining here for this purpose alone. At the same time I will have the necessary technical experts on hand to give an opinion on your idea."

BAUMGART explained the most important points in broad outline, being careful to mention that he had discussed the problem with two eminent engineers, and was sure of their support.

"In that case I will ask you," the minister replied, "to invite those two gentlemen to the session to give us their views. Everything else will be taken care of here, and I hope it will be agreeable to you if I set the time for the discussion for June 18th in the morning—in other words, three days from now."

Baumgart was delighted by this quick action. He felt that his stock was rising. His great idea was gaining credence among the leaders, and among the masses it excited attention. The expressions from the famous director of the Cape Town Observatory were disapproving, but he hoped to convince even this man, Rawlinson, for the man in view of his great reputation, might become a dangerous adversary.

His own straightforward character would keep him from interviewing the obviously despotic scientist in his observatory and flattering him into a more favorable attitude. If he could not win by the sheer strength of his proofs, he would simply have to wait for better times. He experienced a feeling of power; for years he had been occupied with the thorough study of all questions bearing on this subject; he had considered all the advantages and disadvantages, and even the most experienced astronomer was hardly proof against the errors that arise from insufficient research into a specific problem. He would be able to find advocates.

In fact he had already found one advocate. Mme. Effrem-Latour felt that the plan she had mentioned before the parliament might become highly important; but might also, if injudiciously handled, endanger her reputation as a brilliant member of the Senate. Her ambitious energy would not permit her to let any chance of action go by. She had seen the world-famous editor-in-chief of the *African Herald* sitting at the reporters' table, and counted on meeting him after the session in the lobby. The old "Marabou" was thoroughly pleased with himself. His paper had given the signal for a battle of minds on a question of high importance—reason enough for a smile to melt the usual ice of his features.

He was obviously flattered when the beautiful Khadija made her way toward him. His profuse compliments were received with some coolness.

"Tell me, Mr. Graachten, how did you get the news? Did you squeeze it out of the scientist himself?"

"Why, no, madame. As a matter of fact it's a trade secret of the newspaper game which, unfortunately, I cannot reveal."

"Ah, it must have sneaked into your office while you were asleep."

"Well, the news that comes in the regular way is usually tin-can stuff, and no paper can live on such a diet."

"But you know the gentlemen's address at least?"

"By luck, I do. I have just turned it over to the ministry—that is, to Mr. Albarnell. This German scientist is staying at the home of the manager of the Usambaranite works in Cape Town at present."

"I'll look him up on the dot."

"Will you do me the honor of joining me in my airplane? I am leaving in two hours. You will save time and have an excellent travelling companion."

"With pleasure, Mr. Graachten, but let me inform you in the beginning that you will get no chance to slaughter me journalistically."

The "Marabou" laughed. "Oh, I'm not worrying. May I offer you a cigarette? They are no worse than those one gets in Alexandria or Cairo."

Khadija Effrem-Latour reached daintily for the extended case. The "Marabou" gallantly offered her a light. Sir Archibald Plug passed by at the moment. "Don't smoke so much, Madame. It's bad for the eyes. Now if you only used snuff like me, you would have a fabulously clear mind—also like me."

Laughingly they stepped outdoors, and chattering happily the three descended the broad stairs at the foot of which the great fountain was tossing its veils of water into the sunlight-filled air that studded them with diamonds.

From her hotel the Senator had a call put through to the Cairo Observatory. Abdul Ben-Haffa, the director, was a good friend of hers, and she had always taken the side of his institution when the question of research appropriations came up. She wanted an opinion from him on the German's plans.

After a long wait, Dr. Ben-Haffa's voice finally came from the instrument.

"Madame Effrem? Oh, good morning. I hope you have a pleasant morning there. Here we have had three days of rain. The sun is shining? Give the sun my best regards. We're condemned to idleness up here since he has turned his back on us. It's just my luck to be an astronomer on the earth during an ice-age, of all possible times. And to what do I owe the honor of your call?"

She told him the story, explained the German's idea, and told about the discussion of the matter at the extraordinary session.

"Well, what do you think of it?"

"Madame Effrem, it's a very difficult question to discuss. A multitude of highly technical questions are involved. I, personally, have never doubted that our satellite once had a period of life such as our globe has today, and moreover I believe that

lately I have discovered traces of past human activity on the moon. Only our new giant reflector will be able to settle the question. It is quite possible, therefore, that man will find what he expects on the moon.

"But what good is it, if one can't reach the moon—which seems a certainty? At least I am unable to see any possibility of bridging the gap, small as the distance from the earth to the moon is. It is not even fifty times as great as the distance from Algiers to Cape Town.

"In other words, this is the weak point in your German's theory, and unless he is a pure romancer, I would like to hear how he expects to accomplish such a journey. I think it's impossible, but the other idea lies well within the bounds of plausibility. Undoubtedly we'll hear more about the affair, and I will very likely be called in when the government comes to consider his plans."

Mme. Effrem-Latour thanked him and bade him goodbye. She must see this German in person and lay her course according to the result of the interview. The newspaper man's airplane would leave in an hour. Next day she would be in Cape Town and could form a personal estimate. Rawlinson's view in the *Herald* had been disapproving and Ben-Haffa thought the journey impossible. . . . This hardly looked encouraging.

An hour later she was seated at Graachten's side in the cabin of the little plane, across whose wings the words *"African Herald—Cape Town"* were painted in gigantic red letters. They soared rapidly upward; the sun-drenched equatorial lands disappeared behind them and a few hours later the African south rose before them, announcing its presence with low-hanging clouds and rain-showers.

CHAPTER XV.

Baumgard and Effrem-Latour

HAWTHORN reclined comfortably in his chair. Dinner was over. Elizabeth placed liqueurs and cigars on the table.

"This is just the right kind of evening for a talk. These endless rains drive one to despair. I can imagine how the people in northern Europe and Asia and the inhabitants of the southern part of America feel with dense snow falling incessantly and so low a temperature that free movement is an impossibility."

Baumgart nodded silently. He looked into Elizabeth's quiet face; there seemed something sorrowful there tonight. He thought of the last sunny morning when they had visited Greenpoint together.

Standerton-Quil was more lying than sitting in his comfortable chair by the fireplace. "If you don't mind, Miss Hawthorn," he said with a smile, "I shall light up the old pipe. It's a vice, but the virtuous non-smoker is a thorough prig."

"Puff away to your heart's desire, Mr. Standerton. It doesn't bother me. You smoke a pipe, father his cigars, and Mr. Baumgart and I will keep going on our cigarettes. It will result in a queer mixture of smells."

"Have you ever noticed," said Baumgart, coming out of his thoughts, "that the way a man smokes gives one a good line on his character? Take for instance, our little group—the pipe is a powerful smoke, and only the strong man can stand it as a steady diet. It requires the best of treatment and a certain attention to its technical details. That's why a man like our friend Standerton smokes one. A cigar burns quietly, evenly and for a long time, permitting leisurely consideration and makes little trouble with its ashes and sparks. Doesn't this fit our host's character to a T? On the other hand, there is something nervous about the cigarette; it burns out fast, quickly ignited and as quickly extinguished. It's the hasty, brief enjoyment of the restless, and I won't deny that I fill the part."

"Very nice figure, Mr. Baumgart. Do you know one of my greatest worries is how we are going to make a seventy-day trip without smoking? I'll have to get used to chewing tobacco, like a sailor."

"One more reason for not making the trip at all," said Elizabeth, in a tone between jesting and earnestness.

"You have an aversion to this trip, Miss Hawthorn. I have known it since the subject was first broached."

"Is it so astonishing that I should, Mr. Standerton? It's a journey into ghastly uncertainty; into a world on which nature has set the locks of unsurmountable difficulties, and which now offers as our guest believes, a brief and dangerous thoroughfare for the first time. Man should not set himself against the gods. I dare hardly think of the future. Who knows. . . .?"

Brown, the butler, entered, and offered a visiting card. Hawthorn took it and held it within the circle of the light:

"Khadija Effrem-Latour, member of the Senate of the United States of Africa," he read, "Parliamentary representative of the Nile district. . . . An interesting guest. You will meet a remarkable personality; Mme. Effrem-Latour is the lady who brought your plan to the attention of the session. What does she want, I wonder? I'm sure it's something about the idea that has us all on edge. . . . Show the lady in, Brown."

Elizabeth turned the ceiling lights on and the coziness of the smaller lamps gave place to brilliant illumination.

Mme. Effrem-Latour entered the room. A close-fitting, dark blue travelling dress enveloped her perfect figure and accentuated the already striking complexion. High brown shoes did not impair the grace of the well-proportioned and dainty feet. A thin, dark-blue flying net kept the shimmering dark hair in place. Hawthorn crossed the room toward her with his hand extended. The others rose, Elizabeth remaining in the background, watching the clever, well-shaped face of the famous woman.

"Welcome to my house, Madam. I regret that you had to arrive at the Cape while such a deluge is going on; my daughter Elizabeth will be glad to offer you anything you need."

"Thank you, Mr. Hawthorn. I came directly from Zanzibar. From the Zambesi on we had continual rain; we were flying low, and even then couldn't make out the route signals very well. Our pilot got lost near Pretoria and we had to take wireless compass bearings. When we were nearing Cape Town we almost collided with another

airplane at three thousand feet. In short, we had a thoroughly unpleasant time."

Elizabeth laughed her silvery laughter. "May I offer you something in the way of refreshment?"

"No, thanks. I arrived two hours ago and stopped at the hotel to powder my nose and take a bite. Unfortunately, my time is rather limited and I had to bother you tonight. My visit is about the interesting guest whom your roof is now sheltering."

"Permit me to introduce the man of the hour in person."

Baumgart stepped forward and made his bow. He was as embarrassed as a schoolboy as this fashionable woman stepped impulsively toward him, extending her hand.

"I am glad, sir, to reach you before the government extracts all the essential information from you. Your plans have been my preoccupation for thirty-six hours and have brought me really quite a headache. I presume you have seen in the papers that I brought your plan up on the floor of the house. Meanwhile, I have talked to some of the experts, and I regret to say they think the project impossible. I couldn't stand the suspense any longer, and I simply had to come hear you, see you and speak to you. You will probably think me frightfully impulsive, but it's an inborn characteristic that I don't try to curb."

BAUMGART felt more and more uncomfortable. The overwhelming femininity of this beautiful and remarkable woman confused him, and he was some time in collecting his scattered senses.

"I regret, Madame, that you had to go through such a journey on my account. It would have been my first duty to look you up, after the splendid way you stood up for me in the session, and I would have done that on the eighteenth, when I am going to Zanzibar to see some of the government officials. I will be very glad to give you information enough to disperse your doubts, and I hope that you won't leave here before we convince you that I am not submitting any airy chimera to the high parliament of Africa."

"Mr. Baumgart, I would be most happy to have you do it; since otherwise I am afraid I would have to disavow you in the parliament. However, one of my vices is temperament; another one is reckless candor. I will support your plans eagerly if they appear to me and to the experts as possible of execution, but I promise you I will oppose them just as vigorously if they are not."

"Madame, I could have expected no more from you; your responsible office would make such an action your duty."

"Can you spare me a little time tomorrow morning, then?"

"It would be a high honor."

"And now I won't disturb your nice little party any longer."

"Oh, we couldn't permit that, Madame," said Hawthorn, extending his arms as though trying to prevent her escape. "You will insult my humble home if you won't join me over a glass of wine."

She laughed again. "All right, but only on condition that the gentlemen return to their tobacco and permit me to smoke a Papyrus."

The permission was granted amid acclamation. They seated themselves around the fireplace; the rain pattered on the windows again and the wind tore at the frames. Hawthorn filled the glasses as the Senator chatted with Standerton-Quil about the journey to the north, making highly pessimistic comments on the habitability of northern Europe and the burden it would throw on the Africans.

Baumgart listened dreamily, casting side-glances at the charming profile of the daughter of the Nile, on which the fire threw irregular lights. He failed to observe that Elizabeth, whose blonde beauty was paled before this brilliant apparition as the moon gives way before the sun, was looking at him with an expression of melancholy. Strange thoughts passed through Elizabeth's head. How differently this woman who radiated such energy and beauty, who showed such an intelligent grasp of large problems, must appear to the man whose heart she had won in a few days without being aware of it.

She felt that her own weakness, her willingness to prevent the great design, made her appear very insignificant. But at least there was one thing in her favor—she loved the man who wished to dare the fates; the other woman did not. Alas, was this not only another manifestation of weakness and smallness? A Khadija Effrem-Latour would have stepped up to him and said, "I love you, I want you. You shall make me happy. Let your plans drop. Don't you yourself say that the world runs on in accordance with eternal laws? Why do you, whom I love, why do you wish to interfere with this clock-work world, the wheels of which will go on their eternal way by themselves?

"Your plan may succeed, but there is great danger in it, danger which will, in all probability cost me my life and happiness and you yours. It is not a vain desire for fame that pushes you forward on your adventurous course; it is love of mankind, of all these masses who expect something startling. They only want a sensation, even a gruesome one, and they do not love you as I do. We have but one life, and it passes swiftly; come, let us live it together."

Was it not a pinched feminine indecisiveness that kept her from speaking as the other woman would? Perhaps the day would come when this daughter of a brighter sun would speak to her man this way—to this man who was so different from other men in his thoughts, feelings, introspectiveness and intellectual achievement; this man with all his boyish timidity, his girlish shyness.

Perhaps the day would come when this beautiful and brilliant woman would, with her quick decisiveness, conquer the heart of the silent man from the far north, and she, Elizabeth Hawthorn, would have to step back into the loneliness of her room with empty hands. Yet there was something which told her that there were hardly two people on earth less suited to each other than this woman and this man. She glanced shyly at them, meditating.

Around the fireplace the conversation had turned to politics. The young Senator expressed the idea that all governments did only the things that should have been done yesterday and would be anachronisms tomorrow. She compared government to a man striving to run behind the car of progress on a pair of clumsy crutches, and who is always being

kept behind by irregularities in the road which he fails to foresee.

"It is the misfortune of governments," said Baumgart in his deep, quiet voice, "that they learn nothing from the laws of nature. Thus far, people have failed to perceive that states, nations and cultures develop like living organisms, like trees, and that human history is not beyond the bounds of prediction."

"I don't quite understand what you are driving at, Mr. Baumgart."

"LET me illustrate with an example, Madame. All nature is ruled by a final law—that of birth and death. Immutable natural forces build and destroy plants and animals, men and stars. All these creations of nature spring from seeds, grow, ripen, reach a climax and then die away. Just as the petals of a flower are blown away and life dies from the plant, so man dies, and all the animals, and in this way the greatest of the suns must one day cool off.

"Now we are obviously in a position to predict the evolution of an oak and of a man, even when both of them are in their most youthful state. We know of a boy that he will grow, ripen into manhood, marry, become the sire of children, that he will age, and die. From his earliest days in home and school we try to give him the necessary equipment to help him do justice to all the phases of his existence.

"A state is nothing but an enlarged type of organism. For them as well the universal law of life holds true. A conspectus of the history of nations shows them to have developed along exactly similar lines and to have perished in a manner strikingly alike. All had a primitive infancy, an awakening to power, struggles with neighboring peoples, religious upheavals, social revolutions, time of efflorescence and period of downfall preceded by a period of interior decay and followed by a shrinking into insignificance.

"The drama has repeated itself innumerable times and will continue to do so, like the cycle of growth and decay among the trees of a forest. Thus, the history of a nation can also be outlined and many a misfortune in the lives of nations would be prevented if the leaders of the people would consider this process of evolution."

The Senator had listened attentively. This man certainly looked at things from a broad viewpoint. These ideas were new to her and she was forced to admit that they gave her a vista down new lanes of thought and would be of use to her in her office.

"Very good, sir. I feel that you have said something profoundly true. One could almost wish that you would set down this theory of history in a book and develop it into a theory of statesmanship."

"It has been done already," Hawthorn interjected. "The third volume of our friend's work goes into these questions very thoroughly."

"Can I persuade you to make this book available for me, Mr. Baumgart?"

"It is at your disposal at any time, Madame."

"Without wishing to flatter our friend to his face," remarked Standerton, knocking out his pipe on the brickwork of the fireplace, "he penetrates to the nucleus of thoughts in a most remarkable way, and in a manner quite foreign to us. You, Madame, will discover tomorrow that his speculations, of which we have demonstrated the technical practicability after some investigation, are perfectly right. We, that is Mr. Hawthorn and I, are perfectly ready to stand up for him at the Great Council when it meets on the eighteenth."

"So you are already invited?"

"Yes, by Mr. Albarnell himself."

"Well, then I propose that we make the journey to Zanzibar together."

"If you are willing to be the first woman to overcome the prejudice against the rocket and entrust yourself to the machine."

"Since you all wish to travel to the moon in the same monster and I am supposed to be supporting your plan, I seem to have no resource but to deliver myself into your hands."

"Bravo, Madame! You may be sure that we will land you safe at Bagamojo. What would become of the Nile district if its representative perished?"

"You are laughing at me now, Mr. Hawthorn. Khadija Effrem-Latour is not always persona grata to the descendants of the Dutch and English. We must surmount many barriers before attaining full equality of rights."

"I beg you, Madame, take it out on Sir Archibald and spare us your shafts."

"You see, Mr. Baumgart, that my reputation is that of a political Xantippe. A thousand years of the political activity of women have not been enough to extinguish old prejudices in the brains of these men. They cannot escape the idea that a woman is a being subordinate to them, and they think it a humiliation if the other half of humanity wishes to have anything to say in deciding affairs of state. This is the basis of the only real idea my excellent friend, Sir Archibald Plug, who is a marvellous man and the most polite cavalier you could imagine outside parliament, ever speaks about. You know, Mr. Hawthorn, I am going to marry that old sea-dog some day and tame my adversary forever."

She laughed again, exposing two rows of pearls in the process.

"Oh, we implore you not to do that. The quality of the debates in the Senate would decline considerably if your quarrels ceased, and the wonderful Plug would die of melancholy if he lost his charming adversary, for I doubt whether he would get a chance to conduct debates at home—especially as your husband."

"I don't know," said the beautiful Khadija, giving a sly side-glance at the old gentleman, "whether to take that as a compliment, or the reverse."

"How could you think such a thing. Why—"

"Let's let it go at that. I'm used to arguments, and the salt of humor keeps the heart fresh, as an old proverb of my part of the country says."

"The political activity of women," interposed Baumgart, "has in my opinion not fulfilled our best expectations. Woman, if you will permit me to make the remark with the understanding that it has no personal application, has stepped into the arena, fighting political wars in the old-established fashion of man. She has hardly enriched political life with a new spirit. We expected an exhibition of the specifically feminine influence, but she mere-

ly decked herself in the old armor of man. . . . How much has masculine stubbornness and hardness been guilty of in the political lives of nations, especially in older times, when the sword was always loose in the scabbard! How much the doctrine of an eye for an eye has injured our social structure!. . . . We expected that woman would show more kindness, love and maternal understanding, thus reconciling ancient grudges by compromise on both sides.

"But look back through your histories. You will find that nothing of the kind has happened, and that woman has been more intolerant, more domineering, more reckless and more cruel than man. Considering this, I have been forced to an unfavorable conclusion with regard to feminine political activity from an entirely different direction than Sir Archibald Plug and other politicians. Woman has not been a good Samaritan in the political battle; she has discarded the nurse's uniform and the medical kit for the sword. No wonder, then, that she must face swords at the present time."

"There is a good deal of truth in what you say, and I am candid enough to admit that the modern woman in public life has lost a good deal of her fineness in this battle. Not everyone who remains on the battle-field, crowned with the bays of victory, wins happiness."

A strangely serious expression had darkened the features of the beautiful young woman, and the feeling that she was perhaps not quite as joyous as she appeared at a distance could hardly be avoided.

Madame rose. It was late; she extended her hand in farewell to the gentlemen and to the strangely quiet girl, who had retained her place in the shadow. Mme. Effrem-Latour glanced at her searchingly, and the two pairs of eyes met each other for a moment—the dark, sparkling pair and the lighter ones which did not bear the brunt of this ocular combat. Then the Senator turned and left the room, escorted by Hawthorn.

CHAPTER XVI.

Baumgart Presents His Plan

WITH a rattling noise the glittering steel bird shot up into grey air filled with a fine, incessant rain. The wings trembled slightly amid the downpour across which they cut in flat curves, and the guy-wires hummed like harpstrings. The passengers waiting at the electric railroad station of Old Fort gazed up into the grey, permitting the rain to beat on their faces for a moment as they stared at the new means of transportation. Presently it was shrinking to a dot in the distance, obscured by the drizzle.

Elizabeth stepped back from the balcony into her room, folding the telescope. She would be all alone for a few days. Tomorrow morning at the government palace in Zanzibar the question which had so suddenly entered her quiet life would be decided. Her father, Johannes Baumgart, Standerton-Quil and Khadija were now racing at 500 kilometers an hour toward the equator. Only an hour ago the interesting senator had taken her hand in farewell. Her last words still sounded in Elizabeth's ears:

"You are harboring a rare man in your house, Miss Hawthorn. I really envy you. This morning I have been following his work with the closest attention. If you play up to his thoughts he will end by making a philosopher of you. I am glad that I can rob you of this man who has so much to give for a few days and I hope you will not begrudge me a pittance from the riches of his company that you enjoy."

Her answer had been somewhat curt—a mixture of embarrassment, an anxiety not to betray her inmost feelings, and a desire not to be enemies; a mélange of feelings which fitted but ill this girl with the pure, clear eyes and which such a judge of mankind as the beautiful Senator could not but read aright.

With the easy manner of a woman of the world she had shaken the hand of the daughter of the house, thanked her for her hospitality and walked out in her proud, vigorous way to join the men who awaited her, to begin the long race through fog and rain, high over mountains and streams. The suspicion of a smile lurked in her eyes; the smile of the skilled warrior who, certain of victory, awaits the arrival of his nervous and inexperienced adversary.

Then they swung out into the swimming grey with a rattle of explosions. Beneath them the landscape flashed by indistinctly, blotted into a monotone by the persistent fog. New landscapes rose from the towering rock walls before them. A certain feeling of restlessness embraced the travellers, for the first time imprisoned in the racing projectile. The drone of the explosions beat upon the ear-drums, protected though they were by sound-dampers, and the vibration and occasional sharp shocks of the machine gave a sensation of insecurity. This vanished little by little and Baumgart, as well as his companions, found the old saying that familiarity breeds contempt confirmed.

As they proceeded toward the equator the skies slowly took on more and more brightness. Here the old sun ruled its ancient domain, driving back the ocean of cloud with his light-arrows, and brought into being huge air-currents flowing north and south, electrically charging the dust at high altitudes.

The weather was superb when they landed at Bagamojo in the first beams of the searchlights.

* * * *

Again a new and radiant day rose over the earth, setting the gilded dome of the parliament house alight. Once more the flashing drops of the fountain broke in rainbow colors. Once again the statue of the great Van der Valk saw the Councillors and Senators of the nation pass by, toward the stately colonnade; and once again the high Councillors were to decide on an important project.

This time the session was to be held in the smaller auditorium, as the members of parliament were represented only by a committee. The president also was absent; his secretary took his place. The ministerial benches were fully occupied, and of the councillors and senators, not one had excused himself.

At the left, in the foreground, were the green seats of the visiting technical experts. Dr. Rawlinson of the Cape Observatory was there and not far from him Abdul Ben-Haffa from Cairo. Van-

derstrassen, the geologist, was seated between them, while Hawthorn and Standerton-Quil had taken seats in the back rows. Two other engineers from the governmental plants were present and just before them was the bald head of Jussuf Drammen, the famous lecturer on aerodynamics at the University of Timbuctoo. It had been thought wise to call in a few outstanding physicians and physicists as well, and in addition Jerubi Cochem, director of the Government Bureau of Cultural Research.

In front, all alone, on a small platform, sat Johannes Baumgart. With an air of nervousness, he stroked back his obstinate hair and wiped his glasses. His fine face was slightly pale. Mr. Praga, the European ambassador, made his way to the front and shook the hand of the scientist.

Among the Senators, Mme. Effrem-Latour, engaged in eager conversation with Mme. Birrha and Ismail Chak were visible. Sir Archibald Plug and Senator Umaruru were discussing the new immigration statistics which they had just received.

On the stroke of ten Samuel Machai opened the session with a brief address and turned the floor over to the Minister of Science, Mr. Albarnell. The latter gave a brief review of the matters to be discussed, and reminded the experts, according to the prescribed form, to let the interests of the state be their sole guide in their deliberations. He then presented Johannes Baumgart to the gathering and gave him the floor for the exposition of his ideas.

THE German rose, flattened out his notes and began:

"Ministers, Councillors and Senators, ladies and gentlemen: The calamity which has befallen our planet compels us to think of ways and means to overcome its consequences. Thus far no measure which will afford protection against existing and approaching conditions has been discovered. We must not lose sight of the fact that these conditions will increase in severity, that we are only approaching the central sections of the cosmic cloud and we may expect it to become more dense; and we will be exposed to its effects for another two millennia.

"In putting forward the suggestion of obtaining from a neighboring and uninhabited heavenly body information that will help us, I am aware that the idea will cause some perplexity and I offer an explanation of why, after long years of study, I have reached the conclusion that it is really practicable.

"The most recent astronomical and cosmic investigations have confirmed the idea on which we have been speculating for more than a thousand years—namely, that all heavenly bodies go through a regular evolutionary process, not widely different in character from that which plants and animals go through. Every heavenly body comes into being through the concretion of immense masses of gas and dust, similar to those which now surround us.

"These masses become more and more condensed, and the condensation causes a rise in temperature until the sphere of gas and dust becomes a luminous sun. All stars are such glowing gaseous spheres, including our own sun. Our earth and moon, inconceivable ages ago, were such suns, though considerably smaller than the one which now furnishes us with light.

"But these balls of fire float in the immense cold of space, lose their heat by radiation and are bound to become slowly colder and finally to go out like pieces of coal which drop from the blacksmith's forge, white-hot, to cool down ultimately through the red stage to black. All the great suns of the universe follow the same course. During the centuries white suns grow yellowish, then reddish, and finally a thick, solid crust forms about them, they go out and become cold. In this way the earth acquired its covering, and our sun also will some day be covered by a mantle of stone. . . . The cold of space is death to the suns.

"As I have remarked, the earth and moon are of the same character. When the glowing earth went out and locked itself in its armor of petrified materials, the temperature slowly fell to a point where atmosphere which enclosed our planet could eliminate the water it contained. In tremendous rains the masses of water descended upon the still heated crust to form small oceans, were vaporized again, and descended once more only to return. In this state, our fellow-planets, Jupiter and Saturn, still are today.

"At last the tepid oceans found a lodgement on the earth. A single ocean engulfed the whole planet. Slowly the air was cleared and for the first time the light of the sun, which before could not penetrate the mantle of steam, reached the earth. For the first time there was day and night.

"The cooling process continued. As a drying apple shrinks because its skin has become too great for the diminishing water, so the skin of the earth folded and mountains and valleys came into being. The first islands reared up from the ocean, to be followed by entire continents. The warm water leached out the stones, forming a slime, and where the waters retreated in various places the former bed of the ocean became visible as a sandy plain. Thus the earth slowly acquired its present surface formation.

"Already in the primitive oceans lowly forms of life had appeared. How it came into existence we do not know even now, but very likely the original germs of life were borne here from other heavenly bodies mingled with the dust of space. Slowly life developed through higher forms until it reached the peak—man.

"The moon has gone through the same process of evolution. We can see on its surface today the remains of dried-up oceans and the bones of mighty mountains. But all are dead. While Jupiter and Saturn show us the past of the earth, the moon gives us a picture of its future. This smaller sphere cooled off sooner, died long before. At a time when the earth was not even inhabited, Lunarian life had already passed its apogee. When the earth first bore life, the moon was already in the death-throes. Consider those animals who live only a few weeks and the others whose span of life is very long—the Galapagos tortoises, for instance. Similarly various heavenly bodies have different lengths of life.

"The moon is a fragment of the earth. Once upon a time the mass which now forms its substance was ejected from the equator of our planet. It consists, therefore, of the same materials as this earth and the same natural forces operated and are oper-

ating there as here. On that world, the nearest of all to ours, the nuclei of life once took possession, and there too they developed according to the laws of the universe. Thus, on the moon also, a race not widely different from the human, must have lived during its great period, but today water and air have vanished from their world.

"How did this come about? Well, ladies and gentlemen, the water was absorbed by the rock formations, seeping down into deep fissures and combining chemically with the mass, thus disappearing. The molecules of the air were diffused into space. Thus the moon became uninhabitable.

"BUT other reasons brought about the death of the moon before the air was lost. The moon now takes a full month to revolve on its axis. Every point on its surface has fourteen times twenty-four hours of day and an equal length of night. Once upon a time the Lunarian day was brief; shorter than the earthly one today. I shall not bother you with the details, but for a long time we have known that the powerful attraction of the earth has slowly decelerated the moon's rotation. Now imagine a world on which day and night last fourteen days each. When the atmosphere of the moon became thinner and less cloudy, these nights necessarily became so cold that during their two weeks' duration everything began to freeze. Already by that time the Lunarians must have invented means to protect themselves against the cold, and I hope to find traces of these measures in existence today.

"We know also that ages ago such catastrophes as we are now experiencing, such glacial periods, occurred, robbing both earth and moon of their share of solar heat. As yet the earth was uninhabited, but the moon must have been at the peak of her existence, and no doubt a highly-developed race had invented protective devices and measures from which we could learn enough to guide our course. I wish to discover these experiences of a long-extinct race in another world.

"That is my plan!"

Baumgart sat down, crossed his legs, folded his papers, and wiped his high forehead with a silk handkerchief.

The audience had followed him with the closest attention. As he closed, impressions and opinions were whispered from neighbor to neighbor. The exposition had been decidedly clear and convincing, and he might easily be right all along the line. The verdict of the experts was awaited with some eagerness.

Old Rawlinson, the astronomer, was the first to ask for the floor. His patriarchal beard trembled slightly as he began:

"Ladies and gentlemen: The general features of the picture of the evolution of a heavenly body as presented by my German colleague, were correct, but I wish to say that in my judgment the moon has never been inhabited, since the shortening of the Lunarian day, so correctly described by the speaker, took place at a time when the moon was still a glowing sphere of liquid. Higher forms of life could never have evolved there, though very primitive plants and animals may have developed. One proof of this is the fact that even our best telescopes fail to detect any trace of human activity, of ancient structures or the like, though we would be able to recognize an object of the order of the pyramids of Gizeh or even our own parliament building. In short, I do not believe that the moon has ever been inhabited; and this undermines the entire proposal."

Dr. Abdul Ben-Haffa, director of the Cairo Observatory, a man with a dark olive face, clean-shaven head and Roman nose, rose with the easy manner of the Oriental, stroked his ebony black beard, and said: "I regret the necessity of being forced to contradict my honorable colleague from the Cape. I am in perfect concurrence with the ideas of the foreign scientist, except for details of minor importance. I am of the opinion that the moon was, at one time inhabited; I even believe that I have discovered, in collaboration with my assistant Voorthuizen, distinct traces of the activities of a highly-developed race in our neighboring world.

"Our new telescope will decide this question one way or another within a few weeks. We have no proofs whatsoever, that the duration of the moon's day was altered so early in planetary history as Mr. Rawlinson assumes. We have proofs neither for nor against the previous habitability of the moon. At all events, it would be taking a highly medieval viewpoint to believe that the earth was the sole planet to bear intelligent life. It is a drop of water in the universe; one of many millions.

"Dr. Rawlinson claims our telescopes can now detect objects of the size of this parliament building. This is correct, but who is to say whether the Lunarians were of the same size as ourselves, whether they ever built such gigantic structures, or when they built them? For countless millennia they have been extinct and their structures would long since have become collapsed masses of rubble. Only certain outlines, certain geometrical contours, could remain to show us today that there were on the moon cities, buildings, roads and viaducts; and such outlines I believe I have seen. But it is still, as I remarked, a rather insecure hypothesis.

"In short, I believe firmly that we could find such things as Mr. Baumgart expects, and I remain in doubt only as to how he will reach the moon, since space is a vacuum and will not support an airship. It seems to me that this point must first be clarified."

Dr. Ben-Haffa resumed his seat and Johannes Baumgart rose a second time.

"Dr. Rawlinson's criticisms have been, I think, answered by his colleague. But I should like to add the following remarks: In all probability the last few hundred generations of the Lunarians were forced by the cold and the shortage of air and water to live, not on the surface of the moon but in cave-cities below the surface. It is for this reason we see very little of their later structures and the earlier ones have long since disappeared.

"Now let me demonstrate how we can accomplish the journey to the moon in spite of the vacuum of space."

The man at the tribune had the audience once more under his spell. Calmly, in the strength of his knowledge, he demonstrated that the rocket ships enabled humanity for the first time to leave the planet.

"And even if my assumptions regarding what I expect to find on the moon should prove unfounded, humanity ought not to fail to seize the opportunity to set foot for the first time on a land beyond the atmosphere of the earth."

Abdul Ben-Haffa was surprised. His expressive face showed enthusiastic approval. "Permit me to congratulate the speaker," he said, "he has developed a plan that does honor to his intelligence. I am free to admit that the idea had never occurred to me and a trial trip ought to be ventured, at least, to show whether the ships have power sufficient to carry out this great venture. But this is a question for the engineers and not for the astronomers."

Rawlinson seemed utterly thrown off balance by this solution of the difficulty. He stared at the German through his horn-rimmed spectacles, muttering in his beard, for the moment unable to make an audible reply.

Minister Albarnell rose.

"We have just heard Mr. Baumgart's brilliant exposition of his case and had the opinions of the astronomical experts. Our two outstanding astronomers differ so widely in their opinions that they complement each other. Shall we now hear from the engineering experts, and then the opinions of the members?"

The well-known manager of the Usambaranite Works took the floor. In his straightforward, pleasant manner, he explained that he and Standerton-Quil, co-inventers of the rocket-ship, had convinced themselves of the practicability of the scheme. A special vehicle would, however, have to be constructed for the purpose, and an extensive trial flight beyond the earth's atmosphere, would have to precede the journey itself. The project would require an expenditure of approximately three million francs and his company would be pleased to perform all work at cost in view of the greatness of the enterprise. If the government consented, the rocket could be built within three months and begin its journey after another month.

Standerton-Quil followed him with a series of technical details and calculations, mentioning that he would captain the space ship in person, as a proof of his belief in the practicability of the journey, since he was by no means contemplating suicide. . . . The other technical experts were busily making notes, checking figures and calculating. When Standerton-Quil had finished his dry, careful presentation of the case, Jussuf Drammen, the famous lecturer on aerodynamics at the University of Timbuctoo, requested the floor. He heaved his heavy body clumsily to his feet, wiped his bald head, and in a somewhat haughty manner, attempted to demonstrate that the velocity of the rocket-ship must be increased to three times the speed of present rockets, which would be an impossibility. He predicted that the project would end in a catastrophe.

At these words Standerton-Quil leaped from his seat. A frown of annoyance hovered above his nose and his voice was sharp, as he said:

"Theorists of Mr. Jussuf Drammen's type have caused endless delay and confusion in the history of technical progress. They are the fathers of every failure. May I remind the learned gentleman from the University of Timbuctoo that he has spoken in the most vigorous manner against the possibility of travel, even on earth, with a combustion rocket. Today one of them is racing above his head and High Commissioner Chak can testify that this vehicle, which Mr. Drammen thought impossible, has made the journey to the ice region of Norway and back without the slightest difficulty. Mr. Jussuf Drammen may be a giant in the field of theory, but he is hardly a practical engineer, and in spite of his enormous learning he is quite incapable of even steering a baby-carriage across the street."

CHAPTER XVII.

The Great Decision

THE green signals at the ministers' bench lit up, requesting moderation. . . . The opinions of the other experts were divided. The trial trip, they were agreed, would be the final arbiter of the question. At all events the experiment ought not to be abandoned, as it was of the highest engineering importance.

The famous director of the Governmental Bureau of Cultural Research delivered a genuinely moving speech in which he said that the German scientist had proved by his valuable book on the evolution of cultures that he possessed a profound and serious mind. His own department, he added, had a particular interest in determining how and whether culture had developed on other planets, and whether the same force did not cause the development of stars and men. It might well be possible, he declared, that this expedition would bring something altogether new into humanity's ken.

The conclusion of the discussion was supplied by the short speech of the leading medical expert of Africa, the grey-beard Bovenhaart.

Few people, he said, would be willing to undertake a dangerous journey to bring advantage even to the many, in such times as these. It was within the bounds of possibility, according to the well-informed men they had just heard, that the daring pioneers would lose their lives in the attempt. Whether these men, willing to incarcerate themselves for days within their steel projectile, depending upon an artificial air-supply, exposed to the cold of space, to the unknown dangers of the moon with its extremes of temperature and to monotonous food, could bear up physically under the strain, was very difficult to decide. No opinion on such a question could be delivered with certainty. More than once men had withstood more than any physician would have imagined possible. Entire nations had and were living on half the amount of food physicians deemed necessary, and Arctic explorers, even with clothing thoroughly drenched, had withstood a temperature of more than fifty degrees below zero for extended periods. Miners in the deep drifts which lead to the subterranean sources of heat, work at such enormous temperatures that it is incomprehensible how they bear it for an hour. Men are incredibly adaptable, and therefore medical science was unable flatly to declare the enterprise impossible.

The discussion was over. A lively hum of con-

versation filled the auditorium. Here and there the members formed little groups, discussing the different aspects of the question. The problem was unique in Africa's history. For the first time since man had appeared on earth a government had before it the question whether it was advisable to dispatch an expedition into interplanetary space; certainly, a situation without precedent. An eavesdropper among the groups of chatterers would have noted that the majority seemed to favor the idea. The challenging boldness of the plan, the hope of new discoveries in space, arrested the attention of all.

Then Baumgart rose once more, and the audience became silent, instantly.

"I have only a few words to add to what I have already said. The national government has offered a prize of one billion francs for a means of coping with the difficulties brought about by the ice-age. I declare, here and now, that I will make no claim on this award, whatever the result of my experiment. I do not wish to have any shadow of material interest obscure the great enterprise, which is dedicated to a higher aim than the acquisition of wealth.

"I ask only that the government undertake the expense of the expedition, since my personal finances do not permit me to do it. I will make a will leaving my own fortune to the dependents of those venturing with me upon the journey, whose safe return cannot be guaranteed. We may meet with complete success and yet a tiny accident may destroy the expedition, just as a tiny spark can shatter a whole coal-mine. . . . This is all I have to say. Everything else is in your hands."

This little speech augmented the good impression the German had made. Although the Afrikanders of the year 8000 were distinguished by an almost inborn sense of rectitude, they were not accustomed to sacrifice material advantages to any ethical principles; and the offer increased their respect for the man who faced them.

NOW Mme. Effrem-Latour rose to speak. This unique, quiet, humble man who knew so much, had awakened her utmost interest. She felt strongly attracted to a nature so utterly different from her own, and his other-worldly, almost timid manners which differed so widely from those of the men of her own country. Her words were not those of intellect alone; her heart, too, seemed to lie behind what she was saying:

"When, in the year 1485, Christopher Columbus, who later discovered America, submitted his plan to the Portuguese government, a congress of scientists was called to discuss the practicability of the journey and the probability of the existence of the countries to which he wished to travel. This Junta declared the plan to be a dream. The government refused to have anything to do with it, and Columbus carried his plan to another court where he found more understanding.

"The future showed that he was right, and the shortsightedness of the Portuguese Junta deprived the country of the glory of a great discovery and an immense material treasure. Do you not think, ministers and senators of this nation, that our present position is not unlike that of the Portuguese in 1485? Let us learn from history. The expense is not large, all the more so since Mr. Baumgart refuses any reward, and the construction of the space-ship has renounced all profit on the venture.

"Perhaps we shall really gain enlightenment from that quiet world whose crescent is part of our flag, but even if this is not the case we would aid the fulfillment of one of the oldest longings of humanity—to explore the unknown. Even if this expedition never attains its goal, even if it should be a failure and the brave explorers sacrifice their lives, it would only be sharing the fate of hundreds of expeditions of the past. The path of human progress is a road lined with the skeletons of the noblest of the race. Nobody would regret more than I the loss of such outstanding thinkers and men of action; but this thought will not prevent me urging you to consent to this great project. Africa will be the nation to realize an ancient dream and perhaps to initiate a new era."

The young Senator took her seat in an animated manner. Baumgart glanced at her. She had spoken well and her speech had pleased him profoundly. Their eyes met. In hers was the flame of enthusiasm, in his a complete gratitude; then he glanced down at his papers, a trifle confused.

Samuel Machai and Albarnell were the tellers for the voting, which resulted in a quite overwhelming majority in favor of the plan. Only Rawlinson, Drammen, one of the engineers and a few of the older senators had cast their votes against it. Samuel Machai announced that the government had committed itself to the necessary appropriation, and refused to allow the scientist to use any of his own means for the project. Should the enterprise end in a catastrophe, the care of the dependents would be the duty of the nation. The details would have to be placed in the form of an agreement and the government reserved the right for a certain amount of supervision. It would be desirable to have a member of the legislative body itself participate in the expedition and he wished to have the opinion of the technical leaders of the enterprise on this point.

Standerton-Quil gave the answer to this query:

"It is impossible to take with us any person who cannot take an active part in directing the space-ship. On the other hand we will most certainly need a man capable of substituting for me during this long journey. What is needed is some energetic person, possessed of technical knowledge, hard and indefatigable. Should such a person be among the Senators or members of parliament, he would be particularly welcome, and could at the same time act as the trustee of the government. It is understood that this would not entitle him to interfere in the arrangements for the expedition itself. For these details I am responsible, and I cannot share this responsibility with anyone."

The double-round of Sir Archibald Plug was instantly visible, making its way to the front. The old sea-dog was anxious to hoist his anchor for a longer journey than any he had yet undertaken. His moon-like face with the halo of white bristles projected toward the ministerial bench, the little blue eyes sparkled with excitement and the well-cured wine drinker's nose shone more vividly even than usual.

Sir Archibald took his place at the top of the tribune, his lack of stature not permitting him a range of vision across the whole audience. He waved his short arms in a gesture of defiance to the world.

"Ministers and Senators: I have recently expressed my disapproval of such a journey to nowhere, though journeys of all kinds have long been the spice of my existence. Now, however, that the project has been decided upon, I am anxious to be of the party and to attempt one last journey, which will certainly attain some tranquil shore, whether that of the moon or that of some still less known and more silent world the future alone can reveal.

"Of all the honorable members I am probably the one best able to meet the requirements which the honorable Standerton-Quil has imposed, and imposed with every justification. A man who has commanded ships on every ocean of the world and fought endless battles with the forces of nature, who has been stranded and shipwrecked, dealt with pack-ice and typhoons, has nothing to fear from the dangers of this journey. I have travelled in rocket-cars at a time when no one else dared to mount the iron horses and Standerton-Quil can vouch for me. If the government will honor me with its confidence, I ask permission to go make a close inspection of the old lady up in the skies."

The request was granted amid hilarious acclamations from the ministerial bench.

"For the first time in my life I regret not being a man, Sir Archibald; if I were I would give you a battle for this privilege."

"You see, Madame, there is something in being a man after all. You are only a little late in realizing the truth. I shall give your regards to the man in the moon."

"I would much rather go with you."

"For heaven's sake, you would be in command of the ship in no time at all, and rush us all into Hades. Furthermore, this trip is supposed to be in the nature of a vacation for me."

"You'll regret it and miss me."

"Madame, the peacock would be the loveliest of birds if it were mute."

"Unfortunately I cannot return the compliment to my outward semblance."

"You are unaware of my true inner value; in that respect, I am like a wine-keg."

"Who would dare to contradict it?"

SAMUEL MACHAI wiped a tear of amusement from his eye and put his arm around Sir Archibald's shoulders with a laugh. "Call it a day, Sir Archibald. I should like to live until the day when you two bury the hatchet."

Thus the memorable session of the eighteenth day of June of the year 3000 was concluded.

Long afterward the members were still standing about in little groups. Hawthorn, Standerton-Quil, Mme. Latour, Sir Archibald, Albarnell, Ben-Haffa and others crowded around Johannes Baumgart, shaking hands with him and congratulating him. Slowly the auditorium was emptied. The members poured down the wide stair, past the tumbling fountain. Hawthorn and Standerton walked off with Sir Archibald between them.

The trio resembled two obelisks on either side of a sphere. Their conversation ran on the necessary preparations. Johannes Baumgart followed them at a short distance, walking with Mme. Effrem-Latour and the director of the Cairo observatory. At the front of the great park, which exhaled a wonderful odor of flowers, they halted.

"I must leave you here, Mr. Baumgart," said Abdul Ben-Haffa, extending his hand to the young scientist. "Once more let me offer my congratulations. May everything turn out as successfully as it has begun. I hope that our big new reflector will enable us to observe you right up to the moment you reach your goal, and it is not impossible that with particularly good vision we could watch you start on the return trip from the moon. Our instrument will be theoretically capable of detecting objects of twenty meters in diameter at this distance. Don't fail to call me before you leave. You will find something to interest you. A really ingenious idea of my colleague Voorthuizen is responsible for an instrument of which the astronomers of bygone days would never have dreamed, and which, only a few years ago would have been laughed to scorn by our opticians. And now I must bid you farewell."

"Let me thank you once more, Dr. Ben-Haffa, for the understanding and kindly way in which you have backed my plan. I shall certainly come to see you and admire your wonderful telescope and observe once more from a distance the world that is my goal."

"You are very welcome."

They parted.

Johannes Baumgart walked on by the side of his companion down the beautiful lane of trees and flower-beds in the widespread park, a little behind the friends who were to meet them for dinner at the Harbor Hotel. The world was wholly at peace. The sun, a little dimmed, still made the air depressingly close, and the low-hanging branches were starred with fine drops.

An almost overpowering odor distilled from the flowers, numbing the senses. The combination of heat, airlessness and the heavy odor of the flowers gave the German, who was unaccustomed to such a climate a feeling of heaviness. His beautiful companion said nothing and he was conscious of her femininity, like an aura, amidst this profusion of odors, as the slow rustle of her dress forced itself upon his consciousness in a singular swishing rhythm. He removed his hat and wiped his forehead.

A tiny snail trailed slowly across the path. He just missed stepping on it. He bent, carefully picked up the little animal and placed it carefully on the lawn at the left of the path.

Khadija watched the little incident with interest. It opened for her a whole vista into the nature of this man. Her head swirled with thoughts. She had not failed to note that two or three times he had made as though to thank her for her support at the session, but each time had walked on more rapidly with a certain boyish timidity, as though to catch up with their friends ahead as soon as possible. So clear were his thoughts to her that she felt she could read his heart like a book. She sensed the purity and almost childish confusion of his mind, the more since she had never before

encountered anything of the kind.

Finally it was she who broke the silence.

"I expect that you will be frightfully busy now, Mr. Baumgart."

He emerged from his meditations with a start. "Yes, yes; and I am glad of it. A heavy load has been taken off my mind. The end is in sight."

A moment more and he seized her hands spontaneously. He was almost stuttering as he thanked her for her vigorous support in the senate meeting.

Khadija stopped. She returned the handclasp of the learned child who stood before her gently, then looked down, as though in thought.

"Yet I have my doubts whether I really spoke for your best interests. The day may come when I will regret it."

He looked inquiringly into her face, failing to understand the sense of her words.

"Your glance seems to ask a question. I made myself more than a little obscure?. . . . Perhaps I will explain some other time. Shall I see you again before you leave? To bid you farewell before your trip into the unknown? . . . . You intend to go to Cairo, do you not? In less than half an hour the electric railroad will take you to my home from there. It's outside the city in the grove of Zadphe, in a quiet little nook of its own. There I live all year round and raise flowers in our old garden. You will find a different kind of a Khadija, not the Senator. . . . Will you come?"

Johannes Baumgart looked at the ground, then said in a low voice, "I'll be there."

Khadija Effrem-Latour took the German's hand and squeezed it slightly.

"I'll be waiting for you."

"Hello there," a booming voice called from the end of the green arcade. It was Standerton-Quil. "We thought you had lost your way."

The two walked on more quickly. At the curve of the path the glittering ocean was visible and the big hotel on the pier reflected every light from its long ranks of windows. They had reached their destination.

Sir Archibald Plug, today more proud of himself than ever before, could not recall having seen the beautiful Khadija so silent and serious in the long course of their association. All his little darts fell lamely to earth, unreflected from his antagonist's shield of ironic humor. Grumblingly the old sailor plunged into the wine.

"The devil knows how long I'll be able to drink like this," he said.

CHAPTER XVIII.

Work Begins

NOW a period of feverish activity began for the Usambaranite Works at the Cape. For a fortnight Standerton-Quil was completely invisible, leaving his office only for meals or for an evening walk under the silvery trees, pipe in mouth and desirous of silence. He held long conferences with his colleagues on technical questions. For instance, the plans of the windows of the space ship alone had to be changed five different times, since a multitude of problems, possibilities and dangers were involved.

The slightest carelessness would bring ruin to the whole conception. In an electric locomotive, a ship or an airplane a mistake on the part of the constructor could be rectified a few kilometers from the start. The vehicle could be turned around, the whole world's workshops were at hand in an emergency; but this machine, once set loose in space would either reach its destination or be shattered somewhere in infinity.

In the consideration of each special problem the engineer sought Johannes Baumgart's opinion. He considered the parts of the strange bird that was to carry them to the moon from the astronomical point of view, submitting his judgment on conditions in space, the effect of temperature, the substance of the nebula, the varying forces of gravitation of earth and moon, the solar radiation and the difficulties to be expected in landing on the moon. In coping with these problems, however, Standerton-Quil could allow no judgment to overrule his own, since the scientist was so unpractical that the engineer once remarked, humorously, that he understood the structure of millions of suns in the Milky Way but was incapable of driving a nail into a wall.

The body of the *Star of Africa* (which was to be the name of the space-ship) would have a length of fourteen meters and a diameter of two and a half meters at its central sections. Standerton-Quil had departed from the pure shell shape and chosen a cigar-like form. The stern of the space ship tapered down though it did not come to a sharp point like the bow. The entire body was to be cast in a single piece, for which purpose complicated preparations and alterations in the casting department of the factory were necessary.

Hawthorn himself was ceaselessly at work, shifting his best workmen to the points where they were most needed, and seemed to understand just how to inspire them to the limit of effort. They went at the job with a complete understanding of all its implications. An army of newspapermen and photographers swarmed round the Usambaranite Works. The *African Herald* had engaged the services of an engineer whose sole duty was to submit technical reports on the progress of the construction. The strange project drew the attention of newspapers from every continent of the globe; the pens of the best known experts labored unceasingly, and opinions, ranging all the way from enthusiastic approval to predictions of disaster, engaged the attention of five continents. Every schoolboy in both hemispheres became familiar with the portrait of the strange German, and every newspaper was filled with the likeness of Standerton's powerful head, the indispensible pipe projecting from his mouth like an elephant's trunk.

Long before the mold was complete fantastic pictures of the space ship were in print and a South American paper even ran a report of the crash of the *Star of Africa* before the molds had been tapped to be filled with the molten steel.

The moon had become the most popular of the heavenly bodies, throwing even the veiled sun and the Svendenham Nebula into the shade. In every paper her pallid craters, her melancholy, dark heights were pictured. The past of the moon and the question of its former habitation were treated with more or less technical information and a great

opera house in Johannesberg made a sensation with a tone-poem entitled "A Journey to the Moon."

A number of requests to be taken on the journey came in. A wealthy Australian sheep-rancher offered to undertake the entire expense of the enterprise were he permitted to join. An occult society in Burma published a pamphlet announcing that the moon was the residence of former inhabitants of the earth who had become burdened with sin during their lives and warned the explorers against an overbold journey into this land of tortured souls.

Nor was there any lack of serious advice from astronomers and engineers. Each of the missives containing such theories was carefully considered, some of them even inducing Standerton-Quil to alter this or that part of his design. The considerations advanced by a Japanese meteorologist were of particular value. He called attention to the fact that the chief dangers menacing the space ship was that of collision with meteorites large or small. Approximately ten million diminitive meteorites enter the atmosphere in the course of a day and millions of larger ones are constantly racing through space.

The majority of the fragments are scarcely as big as a pea, but pieces of the size of a fist and from there right up to the size of a barrel are present also; and their velocity is enormous—a thousand times that of a fast train. Clearly such a stone would go right through the steel walls of the rocket as a bullet would through a box. . . . Johannes Baumgart had not omitted to consider this danger, having listed it as the chief difficulty menacing a flight through space, but had remarked that the space ship was powerless against it. Very few such splinters reached a size as to offer serious danger to the rocket, however.

The carefully garnered statistics of the Japanese induced Standerton-Quil to plate the inner shell of the vehicle with another thin layer of armor to facilitate the detection of the points of ingress of any such celestial bullets. A supply of lead wedges was also provided to stop up such holes when they occurred.

THUS were the thousand details cared for, one by one. But the chief difficulty lay in the necessity for the faultless construction of the combustion chambers. They were manufactured of pure platinum and cost far over a million francs. Through a clever radiator arrangement, the heat was led off from these combustion chambers and through the other rooms of the rocket where the cold of space would otherwise attack the occupants. A system of cooling pipes was also arranged around the explosion chambers to permit the cold of space to have access to them.

The fourteen-meter body of the *Star of Africa* was divided into five rooms of varying size, connected with each other through small manholes. Each inch was utilized to the highest degree. In the first compartment was the control chamber with the steering gear, speedometer, mercury level to indicate equilibrium, the measuring instruments for temperature in the combustion chamber and similar devices. From this compartment one entered a small chamber which contained the provisions for the travellers, furs, utensils of every sort and steel tanks to hold the compressed air supply.

Adjoining this store room was the main room of the space-ship, arranged as living quarters and bedroom for the members of the expedition who were off duty. Its interior arrangements were the cause of much cogitation, as it had to be arranged with a view to the different positions, with regard to gravity, that the rocket might assume. A large table, deep chairs, built-in beds, closets for maps and books and minor necessities for the journey were arranged in this compartment.

Behind the "salon" as Standerton termed it, there was another small chamber, next to the engine-room. Here, in zinc boxes, were stored the charges of *usambaranite*, all ready for insertion into the automatic combustion machinery, which delivered them to the ignition chambers by a clockwork device. Here also were stored duplicate parts of every description, tools and a few tanks filled with liquid helium to be used in an emergency. . . . At the very tail was the engine-room. Here, behind the automatic machinery, glittered the wide platinum covers of the combustion chambers, and here the web of heat-conducting pipes wound in and out, while on the walls was the signalling apparatus from the control-chamber.

From the outside five exhaust pipes were visible, glittering in the sun like silver trumpets.

Circular windows, constructed of four-inch thick unbreakable glass reinforced with steel mesh permitted vision in all directions. In the "salon" they were so large that even Sir Archibald could easily have crawled through the port-holes. They were held in place by powerful screws which drove them against rubber rings, and served for doors as well as windows. Between the outer armor and the inner plating of steel Standerton installed a three-inch coating of pure wool.

All the rooms could be illuminated, not brightly, but sufficiently, by means of storage batteries installed in the base of the vehicle. There remains to mention that a chemical oven in which heat sufficient for ordinary cooking purposes was produced by simple chemical processes.

Most of this was still in blue-print form or passing through the necessary tests in the various building plants and required much alteration and improvement.

Standerton-Quil raced about with a comet-like tail of Hawthorn's engineers. He was in his element, delighted with everything. "I shall not commence this journey before I am convinced that the last screw and the simplest closet-door fulfills its requirements to the very limit. The moon has waited a thousand million years for our visit and she won't mind a few weeks more or less now. I am thoroughly decided that the whole ship will be broken up unless it is perfectly efficient.

"Years ago I saw in the Museum of Timbuctoo the dried mummy of an engineer who tried, with insufficient means, to reach and explore the bottom of the ocean in a steel ball. He remained right there and through some freak the device came to the surface after centuries. . . . I can't help thinking of this mummy all the time I'm making preparations, and I have no particular desire to be stared at after eight hundred years, all shrunk up like a raisin."

"That's right," said Kowenkott. "The devil knows where the *Star of Africa* will wind up if we don't have perfect control."

Meanwhile Hawthorn was engaged in extensive conferences with the officers of the Deep Sea Diving Corporation, whose artificial respiration devices were world-famous. They had regarded it as a duty to invent something pecularily practical and reliable for the interplanetary venture, the standard apparatus being too uncomfortable for continuous use during the stay on the moon.

Long experiments resulted in a solution that was finally held satisfactory, the inventor of the suit putting it to the test by a five-day stay in an evacuated chamber. He emerged as hale and hearty as he had entered. The necessity of eating and drinking in comfort with the mask on was, of course, the foremost consideration, and an air-pack that would not unduly hinder the movements of the wearer or disturb his sleep ranked next. In the new suit respiration proved easy, the supply of air clear and regular, and odor and taste were eliminated. Baumgart, who tried the breathing mask for a day, was forced to admit that the air furnished by the pack was purer and fresher than that in the neighborhood of factory-ridden Cape Town.

THUS everything that had been only paper plans, desires and intentions, slowly acquired the cold reality of fact. The day for the trial flight was not far distant. Standerton-Quil had asked Sir Archibald Plug to abandon his favorite nook at the Navy Club long enough to come to Cape Town, crawl into the iron prison and re-learn the art of navigation in the new rocket. Sir Archibald turned up punctually, not without a goodly stock of his beloved Tripolitan wine.

Meanwhile Kowenkott had been training Baumgart and the reliable young mechanic Samha in operating the combustion apparatus. Sir Archibald arrived just at the right moment to partake in this course of instruction, it being imperative that every member of the party be able to replace every other. The intention was to make several flights with an ordinary terrestrial rocket-ship, with first one and then another of the proposed crew as captain mechanic before the great trial journey was attempted.

The *Star of Africa* was by now half-finished. Wings were being installed; part of the interior equipment had been built and the provisions, in airtight boxes, had arrived from the best-known African food-preserving establishments. The Deep Sea Diving Corporation had promised the shipment of the apparatus it was furnishing for the following week, and telephone apparatus, for communication within the ship. The great day grew near.

Johannes Baumgart was an infrequent visitor in the huge assembly department of the Usambaranite Works. He was still living at Hawthorn's house, and preferred to sit in his room, perusing works on the moon. Huge photographic maps of the surface of the star of night filled the room, showing every mountain-peak and every crater, be it only a hundred meters in diameter. Ben-Haffa had sent on from Cairo detailed diagrams of those sections of the moon which in his opinion showed traces of former habitation, and where the German stood the best chance of finding what he hoped. Piles of calculations and diagrams rose round Baumgart like a sea.

The weather remained continuously unfavorable, the sun being surrounded by a reddish-brown veil during the rare hours of good vision.

Disquieting news on came from Europe to hurry the workers. In North America food riots were breaking out, causing much damage. Australia, too, seemed to be in a state of flux. More than five hundred thousand people, the advance guard of the European immigrants, had already reached Africa. South America had sent a great fleet of liners to the ports of the Canadian Republic to carry away the dissatisfied masses. The general impression was that of a world-situation beyond endurance and immediate relief.

The Chinese and Indian governments, working with remarkable speed, had already evacuated the most seriously affected parts of their countries. The newspapers were filled with stories of the grave dangers caused by enormous masses of ice in the northern and southern seas. Even the most hedonistic began to feel the significance of an ice-age in these times of highly developed culture and overpopulation of large areas of the earth.

These facts were not lost upon the man who sat in his quiet room, studying the maps and photographs of an extinct world. Presently he was folding up the enormous moon-map of the Melbourne Observatory, a work on which three generations of astronomers had cooperated.

What had become of Europe, the mother of culture, which had infused all other continents with its spirit; sent its pioneers into ther lands and through its scientific and technical achievements had made possible the unlocking of all nature's secrets?

Its peoples were emigrating. It was like the foretaste of the death of an entire world. Of course, the cloud itself would not last forever, but by a natural process the world itself would slowly reach the point where it would become as cold and dead a planet as the moon.

In the moon, also, summer and winter once upon a time decked the satellite in changing seasons, there was blossoming and ripening, birds sang in groves, eyes gazed upon the stars or wondered at the huge disc of the earth. Perhaps high cultures had risen there, and a race that sought the true, the beautiful and the good. But all that was now vanished.

Between the drop of water on which one observes, by the microscope, a thousand tiny organisms, and which slowly dessicates until only a little speck of dust remains—between this drop of water and the slowly drying globe there was really no difference but that of size and length of life.

Baumgart stepped to the window and gazed out into the grey evening. Heavy clouds raced across the sky. What was the purpose of it all, he wondered? After all, what was all the battling for, if the destruction of all cultures and the stranding and sinking, the withering and extinction, the death of the world lay at the end of the trail? Must not this planet appear as hopelessly tiny and ephemeral to some Almighty eye as the aimlessly-moving mites in the drop of water? This one drop dries

out; its inhabitants are destroyed, but the ocean contains billions more such drops, and the Almighty eye turns away from the insignificant earth or moon, or whatever it was called, leaving it a dead wreck—and focusses itself on one of the millions of other stars in the universe, watching the beginning of some new creation.

The young scientist pressed his forehead against the glass, gazing at the milling clouds. He murmured the words of Goethe: "Eternity; it eternally reproduces itself, for every thing must dip in nothingness if it would retain a trace of being."

A hand fell lightly on his shoulder. Rousing from his reverie he turned around. "Miss Hawthorn!"

"If you aren't in a brown study! The end of the world might come and you'd never notice it. I knocked at the door twice and you never heard me. It was so quiet in here that I thought you had gone out. I have come to tell you that we must dine all alone again. My father and Standerton-Quil went to Pretoria to take over the windows of your—prison. I hardly ever get a chance to see father any more. He's so busy seeing that this drama is staged properly."

"You're holding me responsible for bringing this restlessness into your peaceful home. Never mind, it will all be over soon."

"Will it really all be over?"

"Sooner than you think. In ten days; then all your cares will fly away with us."

Elizabeth stood beside him, following his gaze out into the darkening night through which fell a melancholy rain. She sighed and said, almost inaudibly and with an air of resignation:

"The cares will only begin then, and I'm afraid that at that moment a pall not less grey than those out there will lay itself about this house; a pall which will never be lifted—never."

BAUMGART turned full around. For some time he had been moved by the pessimism which had engulfed his hostess. It seemed to him that she suffered more than the others knew. The thing had to be dealt with and it seemed to him that this was the time.

"Miss Elizabeth, let's forget for a moment that politeness should compel me to leave your innermost personality out of my criticism. Who has more right than you to ask me not to dissect their thoughts with scientific calm? You are suffering as a result of our venture. You alone, of all the millions who look forward to it, face it almost as an enemy, and you alone of all the countless people of the world, would be willing to destroy the enterprise if it lay in your power.

"I understand thoroughly that you take some personal interest in us who have had the privilege of being near you so long, and that you are fearful whether the men who have been guests under your roof would return from this adventurous journey in safety. But your father, our friends, are they not also aware of the doubts and difficulties of so bold a plan? Yet our friends are doing all they can to forward the task.

"They know very well that we are embarking upon uncertainty, but they lay all these little personal emotions to rest in view of the greatness of the work and the importance it may acquire for the whole world. You alone are sunk in complete pessimism and completely withold your approval. Didn't Standerton-Quil say recently that you hated the steel bird he had built with so much pains and that he would not be at all surprised if you destroyed it with explosives some dark night? As the daughter of the King of Ghostland in the opera we recently heard destroyed the ship of the man from the distant country? Your father heard the remark; he gave me a queer look and walked off with a shrug of his shoulders. You alone are opposed to the plan which, to a certain extent, represents the crowning of my life's work and you do not share the joy I feel over being near the goal and having surmounted so many handicaps. . . . And why?"

Elizabeth Hawthorn continued to look out into the distance. The room had become so dark around them that the white statue of Goethe placed there by his admirer could be seen only as an indistinct blot. She remained silent for some moments and when she spoke it was almost in a whisper:

"Perhaps because I am a woman. Perhaps because I don't think with a technical brain and fail to grow enthusiastic over the greatest engineering work of the year 3000. Perhaps because I am the only one of all the millions, who does not perceive with the mind but feels with the heart, that valuable men are going straight to destruction before the eyes of a world which desires nothing but a spectacle.

"And that you, of all people, you, the man of the deepest perceptions, the man to whom the purely spiritual things—poem, an ethical or philosophical problem—means so much more than all technical knowledge, all this superficial junk, cannot even make one heart happy. . . . That of all people you should involve yourself in such a world-spectacle, that you should lose yourself in a gigantic machine—that hurts me. . . . But then, of course, I am only a woman."

Elizabeth had become more and more excited as she proceeded, giving vent to the thought she had carried, unexpressed, for weeks, and yet her feelings ran deeper than anything she said. Now she stepped back into the dark of the room, turning to go. Baumgart, surprised at this outburst, nevertheless found much in it that struck an answering chord.

"Remain yet a little while, Elizabeth. I understand your feelings and I esteem them far more than the applause of the masses who look only upon the surface. But you must realize that behind the things you condemn so superficial and technical lies a great ethical idea. This machine and this journey are only instruments for reaching springs that run deep and clear, and which, I hope, will benefit humanity. You have heard the latest reports of the food-riots, of the misery, of the thousand and one troubles that threaten to lower our civilization to the ancient status of tooth and claw.

"It cannot be incomprehensible to you that it is this side of the question that furnishes the incentive for the enterprise—at least for me. . . . You say, in a kind of self-deception, that you are only a woman to whom the masculine urge to dare is foreign, who takes things sentimentally; but have not

women also been enthusiastic, have not women of intellect offered cooperation, even participation in the journey? Has not so important a woman as Mme. Effrem-Latour used all her influence to further my plans?"

ELIZABETH HAWTHORN suddenly crossed the room to the man at the window, visible now only as a silhouette in the gloom. She stood before him for a moment, looking at him silently, and suddenly took both his hands. Hurriedly, forgetting everything else, she ejaculated:

"You foolish man! You great thinker and sage, how little you know a woman's heart! There is no one in this country to whom I could say what I say to you, who are a giant in knowledge and a helpless child in the ordinary questions of existence. Try to understand that a woman works on another basis than logic; that a strong feeling for a man who is involved in a thing can force her to take sides without any reasonable basis. . . .

"I'm no person to analyze Mme. Khadija's feelings, but one thing I know since her visit and from what I have heard about the meeting in Zanzibar—and that is, that she takes a strong personal interest in *man*. How much do you know of what a woman can learn from a glance or a word? Are you sure that the beautiful Khadija does not already regret having promoted the dangerous plan? Do you know whether she is not already fighting an interior battle in which her feelings for the man and the ambition to see him as the Columbus of the interplanetary spaces are the antagonists? It would be far more like her than me to act like the daughter of the King of Ghostland and destroy the ship which is to carry away the stranger to whom she has given her heart, and which might shipwreck him on shores from which no love can ever rescue him.

"I have not succeeded in keeping you from the work with which you will perish. Don't deny it. There is a certain intuition in the heart of a woman of which your keen mind is not aware. When those terrible port-holes have once closed behind you, when the prison of steel has once admitted you and when your face has disappeared behind the ugly breathing mask, I am sure I will have seen you for the last time. This alone justifies me in forgetting the unwritten law and telling you that I know a man in whose hands I would be willing to place my heart for the rest of my life, and that this man wishes to fare forth into the horrible distance to his death."

She let his hands drop, flung herself into a chair and lay there weeping, her blonde head pillowed on the great maps of the extinct world which seemed to be claiming a new sacrifice, and claiming it from her.

Johannes Baumgart, profoundly moved, stared at her in bewilderment. A tumult of emotions ran through his mind. Of women and women's hearts, he knew but little. His studies had left him little time to learn, and a hermit-like mentality had given him a somewhat unworldly attitude. But of one thing he was strongly aware; that this blonde daughter of the old engineer who had so much German blood in her veins was offering him a great and pure love.

He vanquished his shyness, tiptoed to her side and stroked her blonde head tenderly.

"I thank you, Elizabeth, for your love and your confidence. If I were my own master and not the servant of this enterprise and through it of all humanity, I could say something other than what the dictates of duty compel me to say. Now I ask you for but one favor; give me your confidence as well as your heart. Have courage and hope for our safe return.

"If and when the *Star of Africa* which now causes you so much anxiety, glides down from the clouds to the good green earth again, the day will have arrived when I have the right to be more than just a friend to you. And I do believe in the coming of this day."

Johannes Baumgart took Elizabeth's little hand and squeezed it. Gently he lifted her from the chair, and tightly wrapped in each other's arms they left the darkened room.

CHAPTER XIX.

Last Moments

"GENTLEMEN," said Sir Archibald Plug, "I'll agree with you on anything else in the world, but don't tell me that a little nip on such a journey would do any real harm. A ship is a ship, whether it floats in the water or the air, and the man who runs a ship must keep his gizzards warm from time to time. Believe me, I know it from experience."

The rotund little man held a bottle of wine in each arm, defending them against Standerton and Baumgart with more vigor than success. Neither of them would hear of Dutch courage on such a trip.

"All right, all right, Sir Archibald, we'll let you get away with it on the trial trip, but on the journey all you will get is a few small doses as medicine. Don't you think it will be just as hard for me, giving up my pipe? All the same, we'll have to do it."

"My dear Standerton, for the two-thousandth time I advise you to give up the nasty habit of smoking and take snuff."

"I'll try it some time."

"Let us go in now, gentlemen. Kowenkott and Samha are already in the engine room. The longer we wait the bigger the crowd will be. There is a frightful mob around already."

The date of the trial trip had been kept as close a secret as possible. Graachten in particular, had been requested not to print the date or hour in his journal; although he and his staff had been notified and artists, photographers and reporters had turned out in force and had been given box-seats for the show. Graachten was chatting with Hawthorn. His paper had contracted for the first wireless dispatched from the *Star of Africa* when it reached the outside of the atmosphere and he had also been promised the first pictures of the earth taken from the highest altitude man had ever attained.

The space ship lay on a long ramp, reflecting the rays of the sun which, for a few days, had won a victory over the enshrouding clouds. Workmen

from the Usambaranite plant were busy elevating the prow of the *Star of Africa* and removing the chocks.

The hour was a little after six a. m., the time chosen as the one at which they were least likely to be disturbed. Scarcely a hundred people had been invited, but the news that the "moon-flyer" was to make its trial trip had spread by a kind of grapevine telegraph and there was already a great concourse of people gathered on the surrounding hills, and along the roads that lead to Wellington, Stellenbosch and Mowbray. On the beach between Old Fort and Craig Tower, beyond the railroad, a dark mass of people moved uneasily, and an increasing stream of spectators was pouring out of Cape Town itself. The crowd had, nevertheless, enough self-discipline to respect the limits of the flying field. The most desirable locations for seeing the flight were close to the rocket, especially near its exhaust pipes and were obviously unsafe.

Baumgart stepped over to where Hawthorn and Elizabeth stood in the midst of a little group of the invited guests.

"Is everything ready at sea?" asked Coliman, the member of parliament from the Cape district who, leaning on his cane, was contemplating the last preparations with a somewhat worried air.

"Everything, Mr. Coliman. The port authorities have notified us that electric speedboats as well as high-speed crane ships have announced their arrival at their posts, by wireless. The most southerly post is near Kerguelen Land. There are land observation posts also at Cape Guardafui in the Arabian Sea, on the west coast of the Malay Peninsula, at Ceylon, on the Bay of Bengal, in Sumatra and finally along the west and south coasts of Australia.

"However, we won't bother them; the flight will not be dangerous at all. Of course, we will keep over the Indian Ocean to remain in view of the observers. Not that it will do much good; in a few minutes we will be beyond the range of everything but the most powerful of telescopes."

"Do you really think that all dangers are eliminated, at least for this trial trip?"

"Absolutely. You see, there is nothing particularly difficult about it. We will go through the atmosphere just as other rocket vehicles do. The atmosphere continually growing thinner, extends upward to 180 kilometers from the surface. This is proved by the presence of small meteorites becoming incandescent at this height, due to the air resistance. But of course there is no such thing as a definite line marking the limit of the air. Our atmosphere fades into empty space, occupied only by the Svendenham Nebula, very slowly, almost unnoticeably. At twelve kilometers above the earth float the last cold clouds.

"If the ship's velocity is sufficient to take it beyond the rarefied areas we will simply fly out into space, to about three thousand kilometers from the surface and then return. For the rest of the way to the moon, we will meet conditions no different from those that exist a thousand kilometers beyond the surface of our planet."

"How much time are you allowing for your flight?" asked Benjamin Graachten.

"The velocity of the space-ship will average 5000 kilometers an hour. In a few seconds we will be through the cloud-layers and a few minutes more will take us out of the atmosphere. In twenty minutes we will be a thousand kilometers from the earth and well into the substance of the Svendenham Nebula. From that distance we will try dropping a couple of message bombs."

"Let's hope they will be found," said Graachten.

"How are you going to drop them? It's the first time I have heard of such a thing," said Coliman.

"WE didn't think of the idea until last week, and Standerton-Quil just had time to make the alterations necessary. They are light, hollow steel cylinders in which the messages are placed, after being engraved on thin platinum with a steel stylus. At one end of the cylinder a propeller is attached so that their flight will be slowed down on entering the atmosphere. The propeller's motion ignites a charge of magnesium powder that burns for a long time. We hope the cylinder will not escape the attention of the observation posts. They are light enough to float on the water and will be found, even if they drop in the middle of an ocean."

"And you intend to drop such cylinders during your journey to the moon?"

"Exactly. Standerton has constructed a discharge-chute for them in the hull of the rocket-ship on the principle of an air-lock. We place the cylinder in the chamber, close the inner lock, and open the outer with a lever; the cylinder drops, is attracted by the earth's gravitational field, flies toward it, finally penetrates the atmosphere, where the air resistance sets the propeller in motion, the charge ignites, and the cylinder slowly descends. Of course we will be able to send such messages only while the earth's gravity is dominant. Beyond a certain distance the moon will have a greater attraction and would get any message-cylinders we dropped."

"Aren't you afraid," asked Elizabeth who had heretofore been standing silently beside Baumgart, regarding them with a look of grief and resignation, "aren't you afraid that these messages will be missed, in spite of their illumination?"

"No, Miss Hawthorn. The earth may not see all of them, perhaps, but they will certainly get some of them. Every evening, at the same hour, we will drop one of these parcels-post packages. Since we must keep to a definitely-outlined route to arrive at the right spot to meet the moon after two days, these cylinders will always come from a certain easily-predicted direction and will enter the atmosphere at a moment easy to calculate in advance, depending upon our distance from the earth.

"The calculations on these things have been forwarded to all observatories, have been distributed to all ships, will be published in all newspapers and called to the attention of all school children. It would be odd indeed if the messengers from space could hide themselves from all the countless eyes that will be watching for them. Some will go astray, probably, so we will always dispatch the messages in duplicate."

Baumgart ceased and glanced at Elizabeth's serious face. He gave her hand a little unseen squeeze, she replied with a motion of her head and

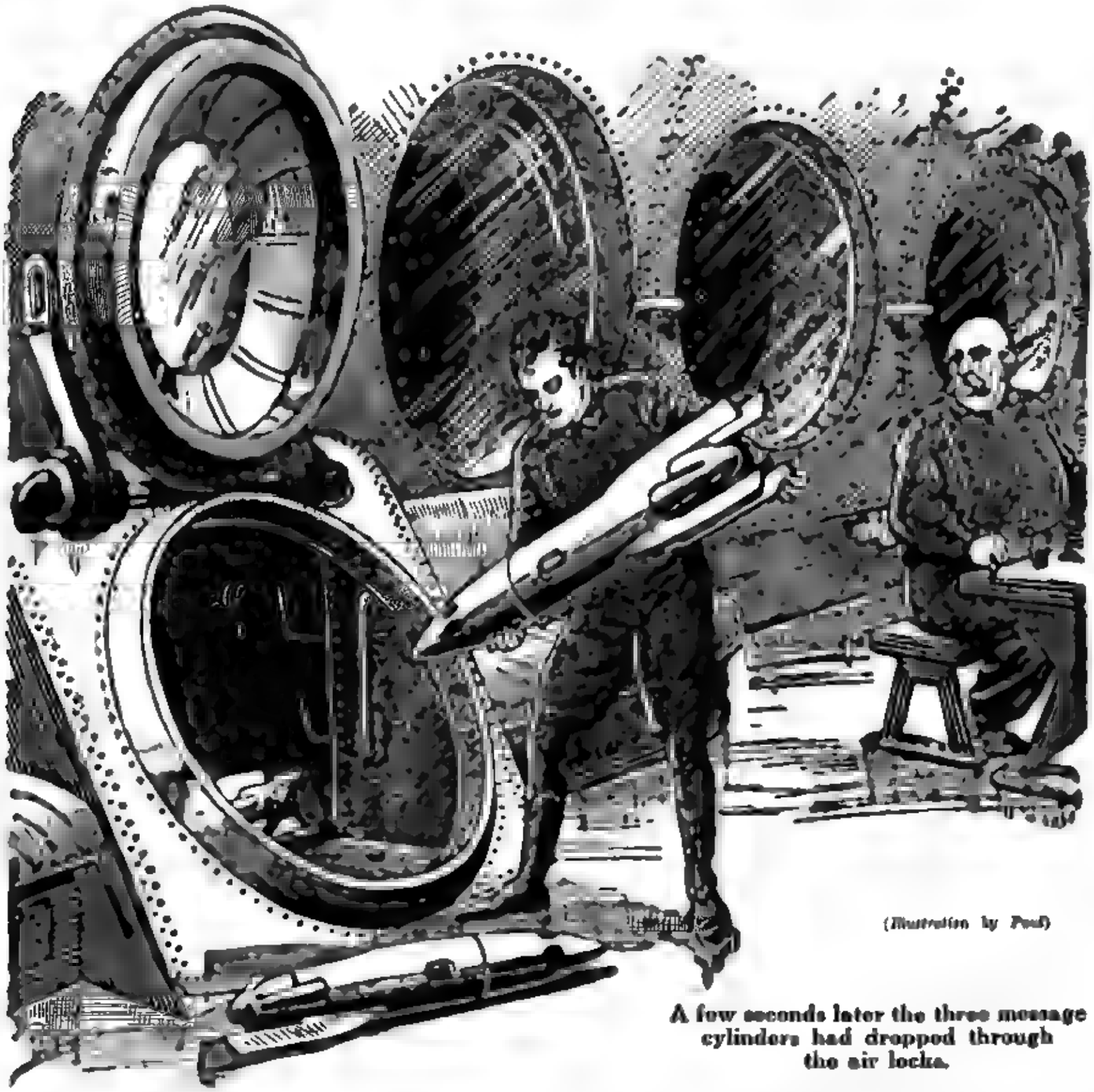
they stepped aside from the chattering group. Hawthorn's blonde daughter wished to say a few words of farewell, and her father, observing them, was pleased that it should be so, since the past few weeks of strain appeared to have made inroads on her strength. Out of the corner of his eye, he caught sight of Elizabeth placing a rose which she had gathered in their garden that morning in the hand of the slender man who stood beside her.

Then a group of workmen, bearing a load of beams passed between them, and then Standerton's powerful voice shouted Baumgart's name.

The engineer wormed his way through the circle of spectators toward the *Star of Africa*. His eyes ran with satisfaction over the long body and graceful wings.

Sir Archibald Plug was just squeezing through one of the port-holes, his bottles tightly clutched in his hand. Standerton-Quil was pushing with energy and laughter, while Kowenkott pulled from within. For a moment only the roundest round of the round old captain was visible, giving a touch of comic relief to the general air of strained expectation. Everyone felt that the Plug was justifying its name; he looked like nothing so much as a stopper from the round window of the rocket.

He finally got through and peered back at the crowd with his jolly red face. "I got in, Standerton, but whether I will get out after two days' stuffing, I don't know."



(Illustration by Paul)

A few seconds later the three message cylinders had dropped through the air locks.

"You'll have to be put on a diet," said Hawthorn, shaking the old navigator's hand through the orifice.

Baumgart had made his farewells. He placed his foot on the little steel ladder, and swung himself lightly through the opening. Standerton gave the final instructions to the ground crew. The last chocks were knocked loose and then he, too, dived into the spaceship.

A few more handshakes. Elizabeth stepped back.

Within, they screwed the thick portholes into their rubber rests. For a moment Kowenkott was visible at the window of the engine-room.

Hawthorn was in charge of the start as far as the ground crew was concerned. The siren sounded; the danger-zone was cleared.

The old man held the chronometer in one hand. It was two minutes before seven. On the stroke of seven, the *Star of Africa* was to start into space.

A solemn silence fell on the assemblage; every heart beat more rapidly with the excitement of the moment. The mass of spectators was motionless. The roads to Wellington and Mowbray were clogged with hundreds of vehicles of all types.

ONE minute to seven.

Hawthorne stepped to the flagpole. The banner of the United States of Africa rose to the masthead with a rattle of blocks. A murmur went through the massed people, then they fell silent once more: the moment had almost arrived.

A signal rang out from the interior of the space ship. Ten seconds more. Hawthorn stepped behind the danger-line.

Elizabeth felt her knees trembling. She pressed her hand to her heart and sat down on a pile of lumber.

Two or three sharp explosions; the *Star of Africa* trembled slightly in its place.

Another rattling salvo and the space-ship ascended in a drumfire of discharges.

The starting-ramp ran back in its tracks with a shriek, then tipped and would have fallen over had the heavy oaken beams not prevented it.

A rumble of applause came from the vast crowd. The photographers worked like mad; the faces of the tens of thousands stared up to the skies, making an ocean of vague pinkish specks, as the glittering body dashed up into the blue, becoming smaller and smaller.

* * *

In the living-room at the time of the start only Baumgart and Sir Archibald remained. Standerton was, of course, in the control-chamber and Kowenkott and Samha were bent over their machinery, learning all its little peculiarities. Later, when the question of whether the medium would support the space-ship was decided, Baumgart and Plug too, would take turns at the controls under Standerton's supervision. Standerton had no doubts about the old sea-captain, but thought little of the German's technical ability. The latter would be relied upon as commander only in an extreme emergency.

The Test Flight

THE engineer steered up and forward. They must remain over the Indian Ocean. Far below them they perceived a set of dark points on the water; the ships watching the flight, waiting there to intervene should the *Star of Africa* sink to the surface of the water. A smile crossed Standerton's face. There was no danger; nothing whatever to fear. The government was really over-anxious; however, it was standing by them in good style.

Baumgart and Plug stood by the great round windows, staring downward to where the earth was becoming a mixture of colored spots in which the green of the pastures and the darker green of forests predominated.

Sir Archibald turned to Baumgart.

"Within twenty minutes we will know whether your assumptions were right or whether Jussuf Drammen of the knowledge-factory in Timbuctoo will be the winner after all. It's really a hellish situation, you know, and I frankly admit that my heart is ticking like an alarm clock."

"That's only natural, my dear Sir Archibald. I'm no better off myself. You can be convinced of a theory right up to the hilt, but when it comes to the practical side one begins to doubt. It's more a matter of nerves, though, than one of the intelligence."

"If only these explosions didn't make such a racket. I feel like a mouse that has crawled into the big drum of an orchestra during the overture."

Baumgart nodded. Plug stepped over to the opposite window. He felt that the German wished to be alone with his thoughts. In the distance the coast of Africa had already become small and yellowish, partly veiled in the early-morning fogs that rose from the ocean. A white seam had been drawn around it—the surf. Beneath them lay the ocean, a monotonous greyish-green plain. A few dabs of cotton seemed to be floating upon it; in reality they were white clouds, more than five thousand meters above sea-level. A tiny black point was visible among them. A bird? No—impossible to see. Sir Archibald took up his glass. It was a great airplane flying landward, which had apparently come to greet the *Star of Africa* in its own element. Here and there the old mariner believed he could recognize ships—tiny points far down. But perhaps this was only an illusion of the distance.

Baumgart stepped to his side.

"Don't you notice anything?"

"Nothing in particular . . . wait. Yes. The infernal racket of those explosions has died down; it's quite a lot weaker."

"Correct. We are nearing the limit of the atmosphere. The sounds can no longer reach our ears in the old strength, since the air which supports them has already become very thin. Out there in space we will hardly hear any noise at all; only the air on the interior of our vehicle will carry sound."

The little red signal from Standerton lit up. The two stepped to the window which gave on the control-chamber. The engineer turned round, pointing to the barometer. They had reached an altitude of 100 kilometers. The needle wavered to and fro, following the vibrations of the flying vessel. At the same time the speedometer showed that the *Star of Africa* was now making greater speed as the air resistance diminished.

Sir Archibald pointed to the needle of the wireless apparatus. It indicated a call. Baumgart stepped over to the instrument. On the ribbon appeared, in Morse code, a series of words, and the needle dropped back to "Silent."

"Herald. Cape Town. Have lost sight of you. Request report on progress and state of travelers-"

"They're a bit impatient," remarked Sir Archibald. "Wire back that we will immediately drink a bottle to the health of the old Marabou and that we intend to continue our journey to the moon."

Baumgart smiled, and answered through the wireless apparatus that fluttered behind the space-ship like the feelers of an insect: "*Star of Africa.* Altitude more than 100 kilometers. So far everything O. K. No reason for worry. Regards to Hawthorn."

A few minutes later the needle registered another call. "Guardship *Condor.* Off Mauritius. To space-ship *Star of Africa.* You are still just visible in six-foot telescope. Send wireless before dropping message cylinder."

"You see. They're on the job. Guardship *Condor.* Old Gunzenbroich commands her. Known him since he was a pup. Hope he doesn't have to fish me out of this tin-can in fifteen hundred fathoms of water."

"Standerton guarantees that the *Star of Africa* won't sink if it plunges into the ocean, but it will not even plunge."

Once more the signal from the engineer lit up, and he gesticulated to Baumgart to come on in. The latter crept through the connecting door. In the control-chamber the quarters were so crowded that the second man could only stand in a bent position beside the steering wheel.

"I'm beginning to worry a little. We are near the limits of the atmosphere. The velocity has increased but the ship shows a tendency to flop over when I put her at a steep angle. We'll go on, however. The next ten minutes will decide the practicability of our plans."

Baumgart said nothing. Words were superfluous. The facts would speak for themselves. Thinking it wise to leave the engineer in peace he went back to the living compartment.

"Well, how does it look. Are we going to make it?"

The German shrugged his shoulders. "In a few more minutes of patience, my friend we will be racing through the Svendenham cloud or gliding back to earth."

From this hitherto unattained altitude the earth looked strange. The impression was that of soaring over a huge bowl. The Indian Ocean had become a tiny plate of muddy soup in which swam the island of Madagascar. The wide shadows of the mountains, thrown by the morning sun lay across the land in such distinctness that it would have been easy to make a perfectly correct relief map from them—if one only had the time. On the western horizon lay South Africa, a blurred yellow [illegible].

The travellers stared downward, each occupied with his thoughts. The tortures of anticipation prevented any real enjoyment of the scene they beheld. All questions, all discussions seemed superfluous. Standerton was motionless at the controls, ready at any moment to swing the great machine around and dive back into the safe cushion of atmosphere. For the first time in his life he felt his nerves so much on edge that it took all his energy to retain some degree of self-control. Nevertheless the conviction was gaining upon him that the *Star of Africa* was going to ride untrammelled to its expected height.

A FIRM hand was placed on his shoulder. Baumgart stood beside him, pointing to the chonometer. "Fifteen minutes! The last traces of the atmosphere are behind us. We are already riding in space. We have won!"

They were more than two hundred and fifty kilometers above the surface of the planet. The needle of the barometer had long since ceased registering, the noise of the explosions had died to a fraction of its former intensity, and a singular shushing along the windows testified to the existence of the cloud of dust through which the *Star of Africa* was rising.

The features of the engineer brightened. He seized his learned friend's hand, saying, "Thank God, we have made it."

Baumgart hurried back to Sir Archibald.

"We're doing it. We are in the midst of the cloud right now and going at a fine rate." At these words Plus rose and made a vigorous effort to embrace the German.

"Congratulations and compliments. Copernicus and Columbus *redivivus*! Wonderful! Magnificent! Superb! I wouldn't go through this quarter-hour again for a forest full of monkeys. In my imagination I already saw this sardine-can dropping back to earth and us crawling out of it like maggots out of a tub, hissed off the stage by our adversaries. Listen. Let's celebrate—and with what? Ah, ha, with what? Where have my bottles of Tripolitan got to?"

He leaped toward one of the chests in the wall.

But Baumgart stepped into the engine room, extending both hands to Kowenkott and Samha. "We have made it. We have won. Our fuel is successful," he said.

Sir Archibald's "little drink" was received with joy by all hands, even Standerton at his controls partaking in the toast, while the old captain took the bridle of this Pegasus of steel for a moment.

Meanwhile Baumgart was dispatching wirelsss messages to the *Herald*, to Hawthorn and to the government. In a few minutes the most remote parts of the world had heard the news. Extras were on the streets immediately; the wheels of industry halted while the event was discussed, and there swept through the world long waves of that joyful excitement everyone feels when a new and brilliant idea becomes the property of mankind or when some ancient dream suddenly acquires shape and reality.

At an altitude of 700 kilometers Baumgart sat down at the table and engraved words of joy and thankfulness to Elizabeth on a platinum ribbon. Another bore a message for the President of the United States of Africa, and a third a brief report to the *African Herald* . . . . A few seconds later the three message cylinders had dropped through the air-locks into the immense depths beneath. For a moment they shone in the sunlight, like splinters of glass at the bottom of clear water, then disappeared in the haze.

Two of these messages reached the earth. One was fished out of the ocean by the guardship *Condor*; the other fell, with its magnesium flare still

alight, into the courtyard of a woolens mill at Itrema in Madagascar. The third cylinder was never recovered. It was the one intended for the *Herald* . . . .

Although the missives only reached their destination after two days' delay, a happy smile crossed Elizabeth Hawthorn's face as she held the thin strip of metal in her hand. This greeting from the blue remained one of her most sacred possessions for fifty years afterward; and on her death-bed she gripped it so tightly that it was placed in the coffin with her.

A thousand kilometers beyond the home of humanity the *Star of Africa* swung round. No more tests remained to be made for the flight to the moon. Not until this moment were the inmates of this prison of steel capable of realizing the beauty of the spectacle the heavens presented to them. Their range of vision had become enormous. Far in the south the ice-barriers of the antarctic pushed their way through the fogs, with long belts of clouds floating above them. In the north the coasts of India were visible as a dark bluish wall battlemented in white. Clouds and more clouds, no longer recognizable as such because fused into compact masses by the glasses of the distance, towered up like mountains under which countries lay buried.

They glided slowly back toward the earth.

It seemed as though the *Star of Africa* stood still in space and the calico-mottled mass below rose toward them with hurricane speed. The cottony piles of the clouds leaped toward them; they dived into the brooding sea of fog, then flew along over the ocean between two layers.

Here and there were the dark spots that represented ships. Tiny puffs of smoke escaped from them as they saluted, the detonations of the firing being lost in the drone of the rocket's explosions. Then Cape Town swung over the horizon with its clean-looking roofs and shining windows. Dark masses of people were visible waiting their return, stippled with the tens of thousands of pink specks that were the faces of the watchers.

The tall buildings of the Usambaranite Works reached up for them and the long tracks of the starting ramp swam into view. The explosions ceased in a chorus of hisses; the shining body came slowly down.

All round was a murmur, an indistinct rustling, as though a wind-storm were tossing the branches of a forest.

There was a sudden snap . . . a swaying . . . a screech . . . the *Star of Africa* came to rest.

The screws of the windows were loosened. Fresh air rushed in. Baumgart's face, filled with the excitement of accomplishment, was visible. A tender white hand reached through the opening and as the young German bent from the window two soft arms were flung around his neck and a face was pressed to his.

The sound of cheering grew and swelled, passing across the hills where thousands of handkerchiefs fluttered in salute.

CHAPTER XX.

Distant Worlds

THE sun was setting beyond the Nile, trailing orange clouds of glory behind it, and creating queer pictures in the still stream. Up here where the hills of the Djebel Mokatam swung across the landscape, Cairo was visible down in the yellow mist of the plain, while curious violet shadows waltzed in the distance. A dry, hot current of air blew across the Libyan desert, of which, in spite of all the efforts of man, only a small area had thus far been placed under cultivation.

Three gentlemen were just leaving the glittering observatory building, which shone like a castle in Spain in the setting sun, placed as it was up here on the hills, far from the city. They strolled through the park toward a little glade where short grass grew.

"From here, my respected colleague, you can see our giant telescope which will probably be the largest in the world for some time to come. We expect to be able to draw from the stars the last secrets of the celestial workshops."

Johannes Baumgart shaded his eyes and gazed across the green space. "With the best will in the world, I can see nothing, Mr. Ben-Haffa. Unless you have buried your telescope in the earth, I can't imagine where to look for it."

Dr. Ben-Haffa laughed his strange Oriental laugh. "We did just that. It is right before you; another step and you will fall into a thirty-one meter tube and drown in the giant reflector."

He laughed again, amused at his little mystery, and took Baumgart's arm, glad to be able to show the famous German something new.

Only at this moment did the latter realize what he meant. They stood before an immense well-shaft; at least it could, in justice, bear no other name. In the ground stood a circular hole a good twenty feet wide, lined with bricks, and surrounded by a low protective coping. At one side lay a kind of protective roof, which had apparently been removed but a short time before by the employees of the observatory.

Johannes Baumgart looked into the yawing gap before him. Darkness hid everything below.

"A singular telescope indeed. I don't quite understand the principle."

"Our good friend Voorthuizen is the inventor. He will explain the thing to you himself."

Ben-Haffa's assistant appeared. He was a tall, pale, hungry-looking man, with an almost terrifyingly ugly face. Only his large, clever eyes were attractive.

"It would have required a really gigantic structure if I had not simply bored the instrument into the ground. We saved millions in expenses this way. You know it would be impossible to cast so immense a reflector as this at the bottom of a metal or glass shaft. It has a diameter of 369 inches."

"How did you do it? You just said that you couldn't cast so huge a mirror. What is it made of, then?"

"Of a liquid."

"I don't understand."

Voorthuizen smiled, flattered. "Well, it's a queer story about this invention. For years I worked on this problem in vain. One evening I was sitting over a glass of tea, mulling it over in my mind. As I causally stirred the tea with my spoon my attention was arrested by the fact that the liquid, set in rotation by the stirring, was form-

ing a concave mirror on its surface, as everyone has seen without noticing the fact all his life. That led me to an idea. I said to myself—if one filled a large round tub with mercury, and set the tub in rotation the surface of mercury would form such a concave mirror as is used in telescopes. I performed some experiments. They were successful. The chief difficulty lay in keeping the mercury-tub at a perfectly even rotation. I got in touch with Parsen & Jaitchi's motor factory, and their engineers finally succeeded in building an electro-magnetic gear that met all the requirements. The mercury-tub rotates with great regularity in a tub of oil of slightly greater diameter.

"Then we went to work. This deep shaft was dug and lined. The tubes were lowered to the bottom, electric cables installed and the giant telescope was ready. The tub was then filled with mercury. Its diameter is 369 inches. As soon as I turn on the current up here the mercury down there, thirty-one meters below us, begins to turn and becomes a concave mirror.

"Here at the edge of the shaft you see the little mirror, which projects the image of the moon or the stars formed into the mercury tub. The giant mirror reflects it, hugely enlarged, and I observe the image through an eye-piece in this little structure here.

"You see, it's a very simple arrangement in principle. Now, have the goodness to look at the wonder-world which this instrument opens up to you."

The German entered the kiosk. Prisms and lenses were adjusted and the electric current turned on. The planet Mars was within the range of the mirror. Voorthuizen adjusted the two-thousandfold magnification, screwed various devices back and forth and stepped back to make room for Baumgart.

The latter seated himself in the observation seat and gazed into the eye-piece. The spectacle filled him with the utmost admiration. He had observed the stars through the best modern telescopes hundreds of times, but the vision afforded by this new instrument surpassed his expectations. The ruddy disk of the planet, about whose habitability and strange canal-like markings men had been arguing for more than a thousand years, lay before him, twice as large as the moon. In the bright snow cap surrounding the pole were wide grooves and darker areas which were quite obviously ice-water lakes, but the canals were resolved into a system of wide crevasses which cross-crossed across glaciated areas. The pressure of the ice had created these mighty glaciers, breaking them off here and there. Their shadows could be perceived as dark lines. Small green areas were discernible, always in localities where they were protected by low hills and exposed to the heat of the sun, obviously poor relics of a vegetation; lichens and mosses just able to subsist in those places where the moist volcanic dust of the ground provided a meager amount of nutriment . . . A few thin cloud veils lay across the landscape, which had an appearance of utter monotony and hopelessness.

NO doubt this world, too, was in the throes of death; was glaciating and had forgotten all its youth. Its age must be between that of the earth and that of the moon. If a human race lived there, if the last generations were waiting for the moment of their extinction, who could tell?

Ben-Haffa's voice roused Baumgart from his contemplation. "Well, what do you think of it?"

"I am simply overcome. Who would have thought that we could see a world so closely when it is revolving around the sun at a distance of seventy-six million kilometers beyond the earth?"

"Let's take a look at the moon now. You will see even greater wonders. You will be able to see it at a magnification of four thousand to one. Since it is only 384,000 kilometers away from us, you will see it as though it were only about 100 kilometers away. In other words we will be able to perceive objects about twenty meters long. I promised no more than I could perform when I remarked that we would be able to see the *Star of Africa* as a little star near the moon when you get there. Yes, and when you land, though we may not see your space-ship, the long shadow cast by the sun should be visible."

Darkness had descended rapidly as it always does in these latitudes. Upon the crest of the hill the white temple-like buildings of the observatory seemed to float. The crescent of the moon hung in an indescribable silvery-green ocean of air, and a few faint little clouds of nebula-masses stood out pinkly in the greenish firmament.

Voorthuizen swung the projecting mirror round. It caught the crescent of the moon, throwing its image down the dark shaft into the rotating tub of mercury.

Ben-Haffa adjusted prisms and eye-piece, then touched the German's shoulder lightly.

"Look. What a wonderful sight!"

Johannes Baumgart gazed into the eye-piece . . . The other two stood silent, waiting. The German did not move, and the expected exclamation of surprise or delight did not come from his lips. Ben-Haffa and Voorthuizen felt that his silence was more of a tribute than words.

The man who sat motionless, gazing into the summer night through the gigantic instrument, seemed to have difficulty in tearing his eyes from the view it presented. So near that it seemed one could touch it, the extinct world lay before his eyes. The tremendous peaks of the chain of the Lunar Apennines shone like liquid silver in the light of the sun; almost as though they were crowned with snow like earthly mountains. A tangled maze of light and shadow lay along grim canyons and lofty summits.

The sun had risen but a short time before on this Lunar landscape and the dawn shadows lay long and jagged across the grey plain of the Mare Imbrium.

He wondered what its appearance was in the days when the great bowl was still an ocean filled with tossing seas, when the gigantic mountain chain with its peaks rose fifteen thousand feet from the bed of the ocean, and when the waves racked themselves foamily against the walls of rock. Did not the bones of stranded ships lie along the feet of these iron-bound cliffs, brought to light after unthinkable ages by the drying-out of the ocean in which they once sank? Who could tell? And yet, he himself, Johannes Baumgart, would one day

know: in a few days he would see it with his own eyes.

Baumgart slowly turned the set-screw of the object-mirror, bringing the immense round of the circular range of Eratosthenes into the range of the instrument. Like a hollow molar of gigantic dimensions the circular crater loomed before his vision. As yet the rising sun left the bottom filled with dense shadow; only the outer rim of the range stood forth. The torn walls of the great hollow tooth descended in terraces to the plain, their flanks veiled in immense piles of rubble. Huge crevasses through which glacier-fed streams once ran, eroding the edges of the ten-thousand foot walls of the crater presented themselves to his view.

Now three stars began to twinkle in the center of the bowl of darkness. The sun had risen above the walls and its rays were striking the tips of the three conical mountains which occupied the center of the crater of Eratosthenes like three immense pillars.

Shadows slowly shortened across the lunar plains, light fell into the night of the deep canyons, silvery battlements lit up in the midst of mysterious darknesses, cracks seemed to open in the solid stone and thousands of details which no map of the moon had ever shown became visible. But no matter how much the play of light and shadow lit them up, these lunar wonders remained utterly lifeless and desolate. It gave the sensation of looking into the changeless, bony visage of a skeleton in the vault of some ancient monastery where it was touched by a fugitive ray of the sun striking through rotted boards.

CHAPTER XXI.

A Night in a Garden

THE German reclined, closing his eyes, temporarily blinded by the flood of light from a distant world.

"Well did we promise you more than we performed?"

"I never saw anything more wonderful. It gives one the feeling of flying over the moon. The landscapes are distinct enough to be touched."

"Permit me to show you one of the localities that looked as though it might be the remains of some large artificial structure. . . Just a moment. A few turns of the screw and a slight inclination of the reflecting prism will be enough to bring the area into the range of the instrument. . . . Here we are.

"Look—you are looking into the deep groove of the Mare Nubium. This crater, here, half filled with shadows, is Nicollet, and a few kilometers north of it you will see a curious, regular triangle standing up out of the plain as though built of white stone. The walls are very low—scarcely thirty meters high. Can you see it?"

"Yes, very distinctly."

"Good. Take a look at the corners. At each corner there are tower-like structures, very regular in outline. It's difficult to believe that it's a natural product. . . . If one looks at the southern wall or its shadows carefully, you will note that there are regular indentations. The whole thing gives the impression of a stone stairway, and north of it a smaller triangle lies inside the greater one, and across the whole structure there seems to be a road lined by walls. See—it terminates in an exact rectangle, as though it were the wall of a courtyard or the foundation wall of a high building which has disappeared. Right beside it you can see another stair with two paths leading toward it in a geometrical line, connecting all the parts with each other by the shortest and most direct route."

"A most singular sight. It looks very much like a planned arrangement."

"And when you look at it closely, everything looks as though it were covered with a sheet of glass. The whole arrangement seems to shine through an almost transparent refracting medium. At times the sun seems to reflect from it for a moment. Well, I think this building or whatever it is, is covered by a thin, transparent coat of ice and that it is quite possible there is water on the moon, Though only in a frozen state, on account of the cold. Now when the sun strikes this spot, or others like it, a fine fog becomes visible as the result of the solar heat and when the sun sinks there is apparently a tiny cloud hanging over the surface.

"I have prepared a whole atlas of such suspicious lunar localities for you. In one of these places you will find what you expect, I think, in spite of the fact that there are so many question marks with regard to the moon as yet."

Baumgart rose, shook hands with the two astronomers:

"An unforgettable moment. I thank you. You have done something great here, and only now will we really begin to become familiar with the details of our satellite. What we have seen previously have been only the outlines."

The three men walked back up the hill path toward the observatory buildings.

"When will you be leaving?"

"In four days. Today Standerton-Quil will finish the alterations. I want to arrive on the moon during its first quarter, while the light and shadow line crosses several of those areas you have marked out as showing traces of human activity. We'll start at noon on the 11th of October. The government has already been notified for that date. His Excellency the President, and the whole ministry will be on hand to see us off. I had hoped we could get away in the early morning without all the sensation and solemnity, but I fear I'll have to put up with it."

"You'll make the trip in three days, won't you?" inquired Voorthuizen.

"Right. On the fourteenth of October we expect to arrive. The moon will be in her first quarter and will be near Delta Capricorni. That star will be the lighthouse for us to follow in order to reach our rendezvous with the moon."

"We have completed our preparations for observing your flight," said Ben-Haffa. "As long as you remain outside the shadow of the earth, you will be in view. Your message cylinders can hardly fail to be sighted, provided they are thrown off punctually. Their arrival can be calculated with an error of only a few minutes."

"Gentlemen, I must leave you. I promised to stop in to say good-bye to Mme. Effrem-Latour. I

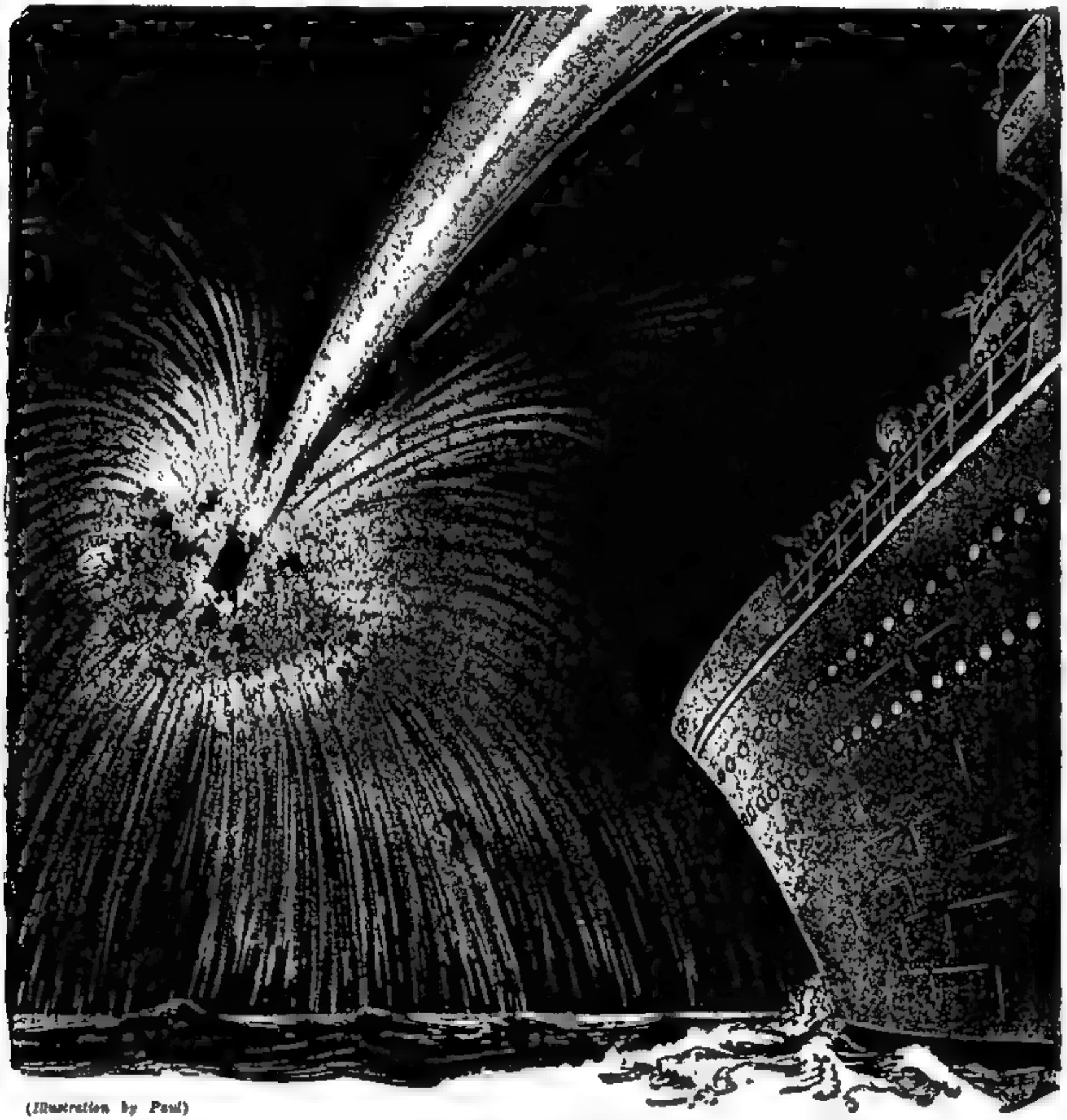
am almost afraid that I'll be too late as it is. The night has come on quicker than I expected."

"Oh, it's by no means too late for a call according to our ideas in these parts. You must remember that up here in northern Africa the early morning hours and those of the late evening are our favorite social occasions. During the noonday heat we take a siesta and enjoy ourselves morning and evening. Madame would be quite indignant if you fail to call at her charming little house in the grove of Zadphe. You can get there in a few minutes. Over there where the road forks you will see a dark hill. Right behind it is the grove. I'll have you taken over in my car. You can reach the airport from there—Madame will doubtless lend you her car—and can take the express plane on the Cairo-Khartoum-Zanzibar line."

"Good-bye then, Dr. Ben-Haffa. When we meet again we will have a good deal to talk about."

BEN-HAFFA took the German's slender hand and held it for a moment . . . The northern scientist had won a place in his heart; there was much about this man, with his silence and modesty that attracted him. He felt a curious surge of emotion, and he could not resist the temptation to place both hands on the slender adventurer's shoulders and say:

"The roads of the world are dark, my friend. You have my most sincere good wishes, but you are



(Illustration by Paul)

"Looking upward we saw a dark mass of considerable dimensions. It fell dispersing glowing sparks and splinters."

embarking on a difficult adventure. Worry and lamenting should by all means be left to the women; but remember that you have in me a friend who would lose much in you. And now, may the Lord of All be with you."

The astronomer released Baumgart. The latter said nothing, but retained the hand of the excellent man in his grasp.

Voorthuizen showed him to the exit where the car was waiting. A few minutes later the German was travelling through the pleasant evening along the quiet road which reflected the light of the moon like a ribbon of chalk.

In the distance the lights of the town shone on the horizon. Before him a low chain of hills stood out of the dimness and from the roadside hedges came the balsam-like odor of the night-blooming plants. Now and then a frightened bird stirred, disappearing into the darkness of the fields.

The road wound past the quarry of Turra, approaching the placid waters of the Nile for a few hundred yards. The ancient river along whose banks millennia of culture had risen and passed, was a path of silver in the moonbeams. . . . At the hills of Massarrah the car turned into a side road. In the distance the grove of Zadphe was dimly visible.

A singular sense of depression for which he was at a loss to account, laid its hand on the German scientist. Was it the old Nilotic scenery, the moonlight or the solitude? He could not guess . . .

In his breast pocket he could feel the bulk of the lovely Khadija's letter. He had been flooded with congratulations of every type after the success of the trial trip, but Khadija Effrem-Latour had sent only a small correspondence card in an envelope of particularly feminine shape that, when opened, gave off some odd perfume of the desert. It contained but a few lines:

"Dear Friend:

Do you wish me to make a parade of dead, empty letters in black and white to tell you how glad I am that your expectations have been realized? Written words are dried flowers. I will be at home to you as I promised, and will expect you—nay, more I will await you.

Khadija Effrem-Latour"

He had made the trip with some reluctance. At Hawthorn's they had released him unwillingly. So few days were left before the beginning of the journey into the land of doubt and danger. Hawthorn tried to keep him back; and he had seen the disappointment in Elizabeth's eyes when he announced his intention of going, but she had remained silent, realizing that these last few days belonged to him to do with as he pleased.

He could hardly have stayed, as a matter of fact. The conference with the heads of the Cairo observatory loomed large in his plans and still more important was the project of observing those areas of the moon which contained the peculiarities and which Ben-Haffa had observed with the giant reflector. . . . A short visit to the woman who had taken so vivid an interest in his plans could hardly be avoided since he was so near.

Nevertheless, he felt a certain excited embarassment at the thought of meeting this remarkable woman on her own ground. A boyish diffidence, against which he struggled in vain, overcame him. A short distance from his destination he was almost on the point of asking the driver to turn round, but by that time he was already slowing up for the arrival. The road forked again here into a little driveway, overarched by tall dark trees. A long white wall leaped out of the moonlight; behind it a thick grove stood blackly against the blue of the nocturnal sky.

The car came to rest.

"We have arrived, sir," said the driver. "This is the wall of the grove of Zadphe. The gate is less than a hundred paces away, on the left."

Baumgart thanked the man and got out of the car. The car turned, and raced silently away through the night. For a while its subdued hum was perceptible, like that of a giant beetle, dying away in the distance, and the German was left to pick his way along the soft sandy path. Somewhere a nightingale was singing. Now and then the breeze rustled eerily in the tops of the trees, and the loquacious chatter of a nearby brook was audible.

Suddenly a white figure stepped from the darkness of the arcade, treading inaudibly on the soft sand.

The German stopped.

"Is it you?"

"Madame Effrem!"

A pair of hands was extended in his direction, and a soft voice, tender with delight said:

"Welcome, thrice welcome to the grove of Zadphe. Ben-Haffa called me up to announce your visit ten minutes ago. I knew that you would come and waited for you here at the gate until I heard the hum of your car. Thank you for coming. . . . No, let's go back to the little gate which will let us into this cloistered home. Give me your arm; you will need a guide through this labyrinth. Can you hear the brook? Be careful, don't slip. There's a little foot-bridge here."

THE two strolled soundlessly through the darkness. Their steps sounded hollow on the planks of the little foot-bridge, and an opening in the white wall appeared before them. Khadija stepped ahead, leading her guest by one hand. The grove of Zadphe admitted them to its secrets.

By their side the brook rippled and a curious perfume rose from the aromatic bushes. The gown of the lovely woman rustled softly; not far away the nightingale went on with its song.

Still and tall the trees stood about them. Above them the night sky was reduced to a slender ribbon, set with a few little stars. Now, left and right among the trees, the indistinct forms of the ancient gravestones were perceptible. Only a few of them remained upright; the majority lay on the ground, broken and moss-grown.

"What is life my friend, and what is happiness? This estate was left to me by my father. All about you can see the traces of the past, and through these ancient groves whisper the memories of bygone love and bygone regret. Once upon a time the pleasant little summer villa of the Caliph Selim stood in this grove. Its remains can still be seen beneath the vines. Here dwelt the great prince

and warrior and the ten favorite wives who loved him like the flowers in their garden.

"He went away to war and was slain there; when the servants brought the news despair overcame the women of his household. They killed themselves on the same day at sunset, and the gravestones about us mark their resting places. Now that nightingale is singing in those old trees of the love which ended in death."

"Happiness, madame, is the foam of a wave. Whoever rises with it knows that behind the crest comes the valley. It not the whole earth a single gravestone for a hundred thousand years of history?"

"Let's go into this little pavilion. I have some refreshments for you, and implore you to give me the few hours which remain to you . . . My friend, an hour which never returns is precious in this brief existence of ours. Once only does a nightingale sing thus on the hedge of roses. Can you feel the tranquil beauty of this moonlight? . . . Take all you can of it for . . . it will never return, this moment. Behind you the world dies . . ."

"You are melancholy and depressed, Mme. Effrem."

"Oh, never mind, my friend. Let's not talk about what I have experienced these last few weeks. It's too late, now, too late. That's a dreadful word isn't it? To think of having only this one little brief life and know that beyond it comes the long night—and to be forced to the realization that one took the wrong turn at the crossroad, and perhaps led others in the same wrong direction."

"We do what we must do. Nothing is accomplished by chance in this world, and everything is attached to invisible threads, which, nevertheless, cannot be broken. You are worried. I wish I could help you."

"You can and you cannot. A great decision would be necessary; a great sacrifice . . . The sacrifice of not sacrificing yourself."

"I am trying, though in vain, to understand what you mean."

"Let it be, my friend. Don't make the effort. Let's forget about tomorrow. Now give me your hand so I can hold it for a moment—for the last time."

"I think we will see each other frequently in the future."

"Never again. When the gate of this grove shuts behind you I shall mourn the day."

Khadija Effrem-Latour rose and came colse to the man sitting before her. A moonbeam fell on her face. He saw the great, radiant eyes gazing intently at him. A mystic expression lay on her pale features; with deep emotion and in a voice that rang with solemnity, she said:

"There are times in life when one becomes clairvoyant and can for a moment lift the veil of the future. Am I being cruel, my friend, if I say this: Set the seal on your work. Listen once more to the song of the nightingale, breathe once more the scented air of this night and drink the glass which sparkles before your lips for the last time, for behind it . . ." Her white hand made a gesture of weariness. ". . . behind it lies the long night."

The moon looked solemnly down on the ancient graves. Long shadows crept across the sand of the garden path, and profound silence reigned in the grove of Zadphe.

* * *

About midnight, high up in the air, the hum of the great passenger plane of the Cairo-Khartoum-Zanzibar line was heard by those below as it raced south. One of the reserved seats was empty.

CHAPTER XXII.

The Last Journey

IT is not always possible for the chronicler to disentangle the threads of events and make them clear to later readers. Running through the book of human history, one comes on innumerable empty pages. The life-threads of great and important men are suddenly broken, and the end of the story of peoples and cultures is suddenly lost, as the steps of the desert-traveller are wiped out by the next wind, so that no other may follow the path he took.

And do not these question marks in human history give it much of its charm? Centuries after the event learned men dig into half-decayed records of the past; thus have they sought to bring to light the mystery of the man in the iron mask, thus essayed to throw light into the darkness surrounding the unfortunate Casper Hauser who came out of the unknown and was cast back into the unknown by a hand equally unknown.

If the events which are recorded here, and if the waves of events they set in motion ebb silently on some unknown strand—who can reproach their recorder? What lay behind the events and personalities, how everything happened just so and not otherwise—we shall never know.

Elizabeth Hawthorn had exactly fifty years to meditate on these questions. She died at the age of seventy-three, an infinitely respected and benevolent old lady, head of the Southern Cross Hospital of Colchester, which had been founded by her in her younger days at the point where the waves of the Indian and Atlantic Oceans met at the tip of the continent.

Fifty years she had to think about the day when she saw the young German scientist for the last time, and the mystery remained insoluble. She saw the coffin close over the living, saw the man to whom she had given her heart's best suddenly tear the bond which bound them together and disappear into space. If the great world talked for decades about the fate of this expedition, if hundreds of scientific treatises considered the problem from every angle and poets made of it a subject for their most impassioned verse—for her there remained another mystery, greater even than that which exercised the astronomers.

She brooded over it for fifty years; it still escaped her. In later years this or that vague idea occupied her mind; certainty she never reached. Until the end of her days she remained faithful to the man whose strange plan had brought him into her life and whose unique fate removed him from it. When, at a great age, she lay down for her last rest, she gripped the tiny ribbon of metal which once, long in the past, had been engraved with a greeting by that hand she had hoped to hold

for the rest of her life. Her fingers refused to release it, and she took it with her to the grave.

Her father had long since joined the great majority. He never really recovered from the tragic conclusion of the great enterprise. His interest in his work died in that hour and he seized, with something like delight, the first opportunity to retire. He faded slowly, like a candle, and on his death his daughter used the great fortune that stood in her name to found the hospital at Colchester where she spent the rest of her days. . . .

The blow affected her differently than her father. His mind was tortured by the question of what circumstances had led to the catastrophe, about what grim end had come to his friends. Not so Elizabeth. It was not the end of the enterprise that perplexed her; from the first day she had expected it, and the return of her beloved would have been a gift from the gods to her. But her beloved had suddenly changed, and when the last locks of his coffin had closed, the living dead man had made a farewell sign that somehow spilled the cup of their happiness in each other.

Why?. . . . Why?. . . . This was the question with which Elizabeth tortured herself till the days when her hair grew white.

LET us contribute what we can to the solution of the mystery. Every voice speaks its thoughts and theories, impressions and opinions, but all roads empty into impenetrable dark where each must furnish his own torch. In Elizabeth Hawthorn's diary the following entries are to be found:

"October 10, 3000

"Johannes arrived at daybreak from Cairo. He remains invisible. Father spoke to him for a moment in his room. He says that our friend is upset and exhausted as a result of the journey. He doesn't feel well and begs to be excused. . . . I feel terribly uneasy. Tomorrow morning or noon the journey into space is to begin. Only a few hours more and they, too, pass—without him. . . . "

From a letter of Standerton's to his friend, Vanderstrassen:

"The last for a long while, and if things go wrong, forever. It's really a curious situation. Incidentally, it seemed to me today as though Baumgart were hesitating at the last moment. He only got here in the morning and retired to be alone. He sent for me in the evening; asked if everything was all right. I told him that all we had to do was to get into the rocket. He remained silent for some time and said suddenly, 'Wouldn't you prefer, after all, to cancel the plan at the last moment?' I laughed and told him that it was too late and that I was not in the mood to be the joke of five continents. He stared straight ahead for a while, then jumped up and said, 'Everything will happen as it must happen.' I don't know—the conversation struck me a bit queer. Between us two, our learned friend is in love with Hawthorn's daughter and she with him. . . . If emotions count with him it wouldn't be the first time that a great enterprise had been destroyed by a woman. See twelve volumes of world history."

From Elizabeth's diary:

"October 10, midnight

"A night of depressing silence. I feel more restless than ever. What an excellent consoler, what a merciful friend is sleep! Tonight it flees from me. Eleven hours more and everything will be over. Tremendous numbers of people are camping in the fields tonight. All of Cape Town and half the province looks like an army camp. Thousands of excursion ships are in the harbor. . . . How I hate these legions of the curious. I wonder whether there are among them other hearts which feel the imminence of a tragic fate when the space ship ascends.

"Tonight the men who will start out into the unknown met around our table. Father and Sir Archibald insisted on it. The latter imagined we could have a gay farewell party, and was very much disappointed when events failed to take that course. He was as jolly as ever and full of jokes. Standerton-Quil was quite cool; he's made of steel springs. The two mechanics were a little ill at ease and were quiet all evening. . . . Johannes came in only for a few minutes. He was pale and thoughtful, spoke very little. . . . Several times he looked at me with sad eyes but avoided speaking to me. . . . It's a mystery. I tried to get him alone but he quite obviously evaded me. I'm trying to make him out. Is he becoming hesitant at the last moment?. . . . One might almost think so from what father said. Does he fear my prayers or tears? Does he no longer trust himself to withstand them?. . . . He shook my hand in complete silence when he went up to his room.

"I wonder whether he is awake, over there in his little room—like me? . . . . His windows are dark, and yet, perhaps he too, is staring into the night.

"October 11, midnight

"It's all over. No, not over yet. . . . What will the end be like? Puzzle piles on puzzle for me. I no longer understand either myself or the world. I will write it all down; perhaps there will come a day of solution and deliverance.

"Quite early things became very busy about the starting place. The laborers completed the last preparations. At the president's seat were posts of the guard of honor, and a great sea of heads was visible in every direction. The green of the fields and the brown of the ground were no longer visible in any direction; an ocean of white, dark and pink covered everything.

"Johannes went over there before sunrise. Old Brown told me about it. Baumgart said good-bye to him and gave him some little souvenir. . . . He avoided me as he did yesterday. I scarcely had time to be alone with him for a second.

"Why? Why?

"About nine o'clock he had a long talk with father. Father said he showed most touching gratitude for the help we have given him and for the time he spent in this house.

"And I? . . . . Why did he run away from me?

"Shall I put down what happened over at the starting place? The newspapers have every detail—how pale Johannes looked when he spoke to the president, shaking his hand long and heartily. The president accompanied him over to the rudder of the space-ship, and fastened the flag to the guy-wires with his own hand.

"Then came the moment when my heart beat as

though it would break. The president returned to his box, Johannes turned around and sought me with his eyes. Groups of people were chattering all around. I tried to get a little way away from them.

"He came toward me slowly.

"He had a serious, reserved expression. His eyes looked sad, and lowered before my gaze. He held out his hand.

" 'Thanks,' he said, 'thanks for everything. There is nothing too beautiful or good for me to ask the future to give you. Good-bye.'

"And when I tried to reply, he raised his hand and begged me:

" 'Out of your kindness, grant me one more wish—the last one. Let's part in silence. Words destroy. . . .'

"These were the last sounds I heard from Johannes Baumgart. I pressed his hand once more and offered him the fresh rose I had picked for him to take with him.

"For a moment it seemed as though he were actually going to refuse it, but several gentlemen approached us; he took it, a kind of shadow seemed to pass across his face. . . . Why? Why? . . . . He turned around and went over to the space ship.

ABOUT eleven o'clock Standerton-Quil and droll old Sir Archibald came to bid me farewell. The engineer was just the same as ever, cool and calm. He seemed very resolute; he said little but I felt that what he said came from the heart. Sir Archibald had a strange, elegiac expression about his lips. He made a few little jokes by way of farewell, but they were not in his best vein. The importance of the moment seemed to affect him.

"At eleven-fifteen they climbed through the window into the *Star of Africa*. Father was in charge of things on the outside and the crowd left the neighborhood of the space ship. I saw the vehicle glittering in the sun and the wind-tossed flag at her stern. All around it was very still, but from the distance one could hear the strange rustle and hum of the countless thousands of people.

"Father stepped over to the window and gave a final handshake all round; the thick window-plates were screwed tight. Father went round the ship to the other side where the workmen were winching the ship into position on the starting ramp, and I saw her prow rise slowly.

"Three minutes more. I felt feverish; all my thoughts were confused. But I was to see Johannes once more—probably for the last time in this life. Innumerable eyes were directed toward the ship. But what did I care for the thoughts or opinions of the world at such a moment?

"From the low barrier I stepped toward the machine. Johannes stood by the window; I waved toward him.

"He did something strange, mysterious, inexplicable. I will retain the memory of it till my dying day.

"He looked at me with an expression almost of pain, shook his head sadly, reached suddenly behind him to the table, wrote a few words on a slip of paper and held it to the window. It was a quotation from Goethe:

" '*Near was the friend, now is she far; torn lies the wreath, the blossoms are scattered.*'

"He took the rose from the table, the rose I had given him, and plucked off its petals. . . . I saw the red flakes fall like drops of blood.

"Everything became dark before my eyes. I think I fainted."

From a letter of Representative Coliman of the Cape district to High Commissioner Chak:

"At eleven-thirty sharp the *Star of Africa* got off with a roar, accompanied by the applause of an incalculable number of spectators. Sir Archibald Plug sends you his best. He seemed much moved but as usual, hid it under a *feu-de-joie* of jokes. The German was as pale as marble and remained almost invisible. Hawthorn's daughter fainted a few minutes before the ship got off while she was making a last farewell at the window. They say she and the German were interested in each other. It's easy to believe she should be a good deal cut up about this trip, as the outcome seems difficult to predict. . . . Your reports on the new food riots in North America came this morning, but I haven't gone through them yet. More about that later."

From the records of the Ministry of Science of the United States of Africa:

"The *Star of Africa* ascended at 11:30. The following reports are to hand from the observation posts:

"Cairo Observatory—The space ship went beyond the range of the unaided eye within a few minutes. It would be observed through the telescope for twenty minutes, then being lost in the clouds. At the close of observation it appeared, with a magnification of 500, as a long, bright flash proceeding steadily and diminishing rapidly in diameter. Details were no longer visible.

"Madras Observatory—The space ship *Star of Africa* was sighted from this point at 11:40 in the comet-telescope, as a luminous point. Two powerful telescopes were placed on it for further observation. Both were focussed on the vehicle and were able to keep it in range until after sunset. It was visible in the night-sky as a fairly rapidly moving star until the rotation of the earth caused it to set. . . . Attempts to locate the ship on the following day were without success.

"Wireless Station, Bagamojo—Two hours after the departure of the *Star of Africa*, at 1:30, we received the following message. '*Star of Africa to Government, Zanzibar.—Are approximately 1000 kilometers above atmosphere. Everything in order.*' Another message was received at 5:00 p. m. but was only partially decipherable, the distance having become too great for the sending set of the space-ship. The following words were definitely detected. '*Star . . . . Zanzibar . . . . 3000. . . . Zanzibar . . . . 3000 . . . . none . . . .*'

"Then the government received the first message cylinder. It had dropped near Lalipore in India with its magnesium flare well alight. It showed that two others, which never arrived, had preceded it. The platinum ribbon contained the following message:

" '*Message No. 3. We are exactly one radius of the earth away from the planet. It is visible as a huge disc, and we can see the whole surface from the north pole to the south. One-thirtieth of the*

journey has been accomplished. All participants are affected by vertigo. We regard it as a kind of interplanetary seasickness and hope to overcome it. Nothing else worthy of note.'

"A message was received from Captain Braganza of the steamer *Sospir del Mare*. On the night of the 12th the ship observed a slowly-descending bright light at a point west of the Azores. Its velocity was too slow for it to be a meteorite. The captain was convinced that it was a message cylinder from the *Star of Africa*. They steered toward the spot but were unable to find any trace of the cylinder.

"A message cylinder also dropped near Saratow in Russia, the second and last which was received by the government. It bore the number 14, and was dated as of the evening of the 12th.

"The platinum ribbon contained the following:

"'We have almost half the distance behind us. The earth floats in the distance like a huge moon. She is veiled in dense clouds, which thin out only near the equator. None of us feels quite as well as we could wish. Sir Archibald and Samha are particularly overcome and must spend a good deal of time resting. Yesterday a nut-sized meteorite penetrated the control-chamber, missing Standerton by a hair's breadth. . . . We suffer from cold. Baumgart had to lie down an hour ago. If our difficulties increase, we intend to return before reaching the goal, in spite of Baumgart's protests.'"

CHAPTER XXIII.

Darkness

THE government never received any other message. These last discouraging words remained the farewell from the space travellers. Everything else is darkness and doubt.

Three further message cylinders were seen to fall but were not found. One dropped into the ocean near Hawaii; one descended into the Alps, and the third fell in the icy wastes of the Czuchen Peninsula. Although the rewards offered stimulated extensive searches for these cylinders they remained undiscovered. . . .

The space ship was sighted for the last time on October 14 in the giant reflector of the Cairo Observatory by Ben-Haffa, Voorthuizen and Gragrano. Since its steering point was Delta Capricorni and since its approximate distance from the earth was known the locality in which it could be found was calculable as in the case of a comet. For ten days unfavorable weather conditions at Cairo did not permit of observation. On the 27th the skies cleared and after some search a slowly moving luminous point was located in the constellation Aquarius. According to the unanimous opinions of the observers this could only represent the *Star of Africa*.

This was later disputed by Rawlinson of the Cape Observatory, who demonstrated that an asteroid was near the point at the time and the matter was thrown into still further doubt by the Melbourne Observatory which reported the space ship on the following night at a point so far distant that at least one of the observations must have been an error. As the experts were unable to reach any agreement, how could the public decide? As luck would have it, the unfavorable weather endured for several weeks. The sun and moon barely penetrated the clouds. In spite of all efforts it was impossible to make another observation on the feebly luminous point.

Newspapers and scientific societies all over the world were occupied with the question of the fate of the enterprise, and one might say that humanity concentrated its attention on the *Star of Africa* for the next weeks. Even the wildest rumors were received with interest.

Small wonder than, that there was immense excitement when the world's newspapers printed the following bulletin on November 4:

"The captain and officers of the S. S. *Lizard* which arrived at Bahia on Nov. 3, have made the following statement: On November 1, about 9 p.m. we were in 29 degrees 10' longitude and 20 degrees 4' of southern latitude. We heard a strong, increasingly rapid sound in the air, not unlike that of a high-powered rocket car. Looking upward we saw a dark mass of considerable dimensions at a distance of about six kilometers. It fell, dispersing a number of glowing sparks and splinters. The object plunged into the ocean. The ship was immediately pointed in that direction but no traces of the object were discovered except a whitish powder which seemed to cover the surface of the ocean over a considerable area. The size of the object was estimated by all on board as at least one hundred cubic meters.

Signed,
Frederick Patterson, Capt. *Lizard*
Smith, Glasier, Oversmann, officers."

The watchkeeper of a guardship stationed near this point had also noticed the apparition. From his viewpoint the object looked as large as the *Lizard* which was clearly visible to him. He stated that a considerable part of the mass descended in a rain of sparks considerably earlier and at some distance from the main fall.

It was very easy to interpret this occurrence into the fall of the *Star of Africa*. The only alternative seemed to be the arrival of a giant meteorite. Against this assumption must be set the facts that such meteors are so extremely rare that the world's history notes only three or four such cases; and in this case no one heard the thunder which is characteristic of such meteor-falls.

On the other hand Hawthorn and the engineers emphasized the fact that in the case of such a catastrophe as this theory assumed, the *Star of Africa* would never have descended as a single unit. Just as meteorites are heated white-hot in their passage through the atmosphere the space ship would have so increased in temperature, thanks to the friction of the air, that the *usambaranite* charges contained in it would have exploded, and the quantity of explosive carried would have been sufficient to reduce the entire body of the space ship to fragments. If the mysterious meteorite had been the *Star of Africa* they would have seen nothing but a terrific explosion at a high altitude, a lightning-like flash and a rain of tiny fragments. The space ship would have been reduced to dust and ashes.

Against this others argued that the travellers

would have jettisoned the explosive at the last moment to avoid just such a danger.

Again it was a case of opinion against opinion.

The government of the United States of South America ordered two deep-sea dredges with diving equipment to proceed to the locality at once. It was an act more of good will than anything else, since the admiralty had little doubt that it would be impossible to lift the sunken body, as the ocean was more than 2700 fathoms deep at this point. As a matter of fact no traces of the fallen body were discovered. At three points deep-sea photographing apparatus was lowered but the negatives showed no peculiarities.

The watchkeeper of the guardship said simply, "The ocean is wide and deep. You would stand more chance of finding a sewing needle in an entire cornfield than a body in the sea."

Some portions of the greyish-white dust were recovered from the sea. Investigation showed that it was metallic in character and had been subjected to great heat. . . . This seemed to substantiate the *Star of Africa* theory.

The public followed the news with the closest attention. Speculation as to whether the travellers would reach their goal and return ran riot.

THE tenth of November arrived. The old faithful companion of the earth remained impassively in its place, continuing calmly and evenly in its orbit as it always had. The pale face looked down indifferently on the earth and the silly little men who had ventured out into space in a fit of megalomania.

Dr. Ben-Haffa and his assistants had kept an incessant watch on the slowly waxing crescent through their giant reflector. At the line which parted the moon's day and night the surface of the Mare Imbrium, and the silvery battlements of the mountain chain of the Lunar Apennines were visible.

Ben-Haffa and Voorthuizen examined the edge with the closest attention but the day passed without a trace of the *Star of Africa*. During the ensuing evening Voorthuizen finally leaped into Ben-Haffa's room after hours of observation.

"The *Star of Africa* has arrived. They are there! Come on—hurry up." The Dutchman raced from the room, Ben-Haffa half-clothed hastening behind him. Quite out of breath they arrived at the deep shaft of the giant reflector.

"It's gone. I can't see the luminous point any longer," said Voorthuizen, stepping back from the observation seat breathing heavily. A tiny luminous point, he declared, had been visible at the rim of the light side of the moon. He could see it only with the greatest effort and it undoubtedly would have escaped his attention had it not moved very slowly. The light had gradually swung over to the dark side of the moon, returning after a few minutes. He had hurried to bring Ben-Haffa as a witness.

The latter stared steadily at the dark side of the moon, and suddenly gripped Voorthuizen's arm with painful force. "Yes, there it is—a tiny luminous point." Very slowly it steered toward the illuminated portion of the moon, escaping observation in the flood of light. Throughout the night the two astronomers continued their observation but the object did not appear again.

Ben-Haffa and his assistant clung to the conviction that they had seen the *Star of Africa* just descending on the moon for the rest of their lives. Who dared to oppose the opinion of two such respected scientists?

Nevertheless, there were plenty of voices who warned against basing the assumption that the travellers had actually reached the moon on this single observation. A number of experienced astronomers adhered to Rawlinson's opinion that the pollen of various flowers, carried high up into the air by aerial currents and lighted up by the solar radiation, is visible in large telescopes, and that such a body had deceived the Cairo observers. This was the more probable as the younger observers at the Cairo observatory had several times noticed such faint, floating points of light.

Once more the footprints in the sand were obliterated.

There remained nothing but waiting.

With the greatest excitement the world awaited the middle of November. On the thirteenth, or at the latest on the sixteenth, the travellers were due to return. No trace of them. Hope remained. The company which had provided the provisions for the expedition announced that with care, the supply might last ten or even fourteen days more. The Deep Sea Diving Corporation of Bombay declared that the supply of compressed air would last approximately six days beyond what the duration of the journey called for. Until the twenty-sixth of November the travellers could breathe; their food would last until the third of December.

Both dates passed without a trace of the *Star of Africa*. In mid-December the space ship had to be declared lost, since no possibility of their survival any longer existed.

The Ministry of Science called together a committee with Mr. Albarnell at its head. Rawlinson, Ben-Haffa and Hawthorn were members. As a result of the meeting, the government published the following report on the outcome of the enterprise on January 20:

"The *Star of Africa* and its courageous crew must be regarded as lost.

"The last message cylinder brought the report that the travellers were ill from the effects of the voyage. The thought of returning was contemplated. It is possible that all members of the expedition became incapable of operating the engines and steering gear, the vehicle thus getting out of control because of the lack of a directing hand.

"It is possible that large meteors smashed the space ship or destroyed vital parts. In either case it would fall.

"It is possible that the *usambaranite* charges were ignited and blew up.

"In case the vehicle was already within the Lunar field of gravity, it would fall onto the moon in fragments. If its destruction occurred within the terrestrial field of gravity it would fall to the earth.

"Since large areas of the earth are covered by oceans, lonely mountains and uninhabited jungles, the space ship might easily have escaped observation since few points on our planet are free of clouds. Perhaps the officers of the *Lizard* actually

did see the space ship fall into the South Atlantic. The improved diving apparatus of the future alone can clarify this question. Or perhaps the remains of the *Star of Africa* will some day be found in a desert or ice-field.

"Finally it is not impossible that the expedition reached its goal and suffered fatal damage in descending to the surface of the moon. The vehicle might have been destroyed or rendered incapable of ascending to return. In such a case the brave travellers would perish in a short time.

"To the Government of the United States of Africa remains only the sad duty of honoring the explorers by erecting a monument to those who fell in the interest of suffering humanity and of caring for their dependents."

NEEDLESS to say, the unfortunate outcome of the plan aroused the liveliest compassion throughout the world. For months, for more than a year, a thousand possibilities were discussed in the columns of the newspapers and a thousand fantastic rumors given to the public. But interest gradually ebbed. New events wiped out the memory of the old. Conditions in Northern America became more and more aggravated. Famines and the inefficient methods of the Canadian government in dealing with them forced the masses to help themselves. Bloody riots occurred and starving mobs moved south, meeting fierce resistance. Genuine battles were fought and humanity seemed once more on the edge of a plunge into barbarism.

In Africa the immigration of twenty million Europeans brought about considerable difficulties, with attendant friction. In March came an immense shower of ashes, and for three weeks the sun remained practically invisible throughout the world; the day was announced only by a ruddy, dim dawn. Heavy rains descended and north and south were glaciated to an increasing degree. The Alpine glaciers descended to Lake Constance and to the line Milan—Verona—Venice. In South Australia as well there were riots. Navigation was paralyzed for fourteen days and increased the already poignant difficulties of feeding the multitudes. The ocean became a labyrinth of icebergs, almost impossible to navigate in the rain and darkness. The *Star of Africa* was forgotten in the pressure of events.

Here and there people continued to think about the problem. For months and years the aging Ben-Haffa stared into the glittering mountain-labyrinth of the moon through his giant reflector. More and more powerful prisms were attached, and several times he believed he had discovered the remains of the riven space-ship. His friends, worried about the state of his eyes, begged him to desist, but he continued to stare at the bright disc, seeking the traces of his vanished friends.

Amid a thousand other problems, the announcement of the death of the well-known senator from the Nile district, Mme. Khadija Effrem-Latour caused some stir toward the latter end of January, 3001. She was a victim of heart-disease; it was said because of the effect of the death of her aged mother. In Cairo a rumor to the effect that the beautiful and brilliant woman had willingly parted from life was circulated. This was but little credited, as she seemed to have no reason for leaving the world. It was rather odd that just before her death she had left a note asking that in case she died, she be buried in that part of the grove of Zadphe where the little pavilion stood.

It was done as she had wished and on the little stone that marked her grave the words she herself had left for the purpose was written.

"Happiness is the foam on a wave. Whoever rises with it knows that behind the crest comes the valley."

Nobody was able to tell where the line had been taken from.

* * * *

The old moon still moves in its orbit and looks through the gaps in the clouds onto the active life of earth, where a thousand flowers are blooming, and misfortune, happiness and sorrow, rise and flames are blazing, and where the scales of fortune and misfortune, happiness and sorrow rise and fall. For the moon, all that is long since over.

Into dark canyons, and through the leafy roofs of the forest falls its light. Its image is mirrored in lakes, and pales in the street-lights of great cities, where hearts beat high with hatred and love, work and pleasure.

Its radiant beams reach far. They creep across the white wall of the dreamy grove of Zadphe, where tall, dark trees reach up into the night. Long shadows run across the narrow paths of sand, no longer trod by the dainty foot of woman. They count the ten moss-covered gravestones of the wives of the Caliph Selim, and at midnight when the nightingale sings on the rose-hedge they tenderly caress the new gravestones which stands among the plants.

How far they reach, the rays of the pallid star of night! They are mirrored in the long range of windows of the hospital of Colchester, and fall on the mild still face of the kind old lady in the white cap of the Sisters of Mercy who leans at the window, looking out into the silent night with eyes that are full of mute questions. At the same moment its rays tremble about the tall obelisk which rises before a strange array of tracks and wheels that point toward the sky, weather-worn and rusted.

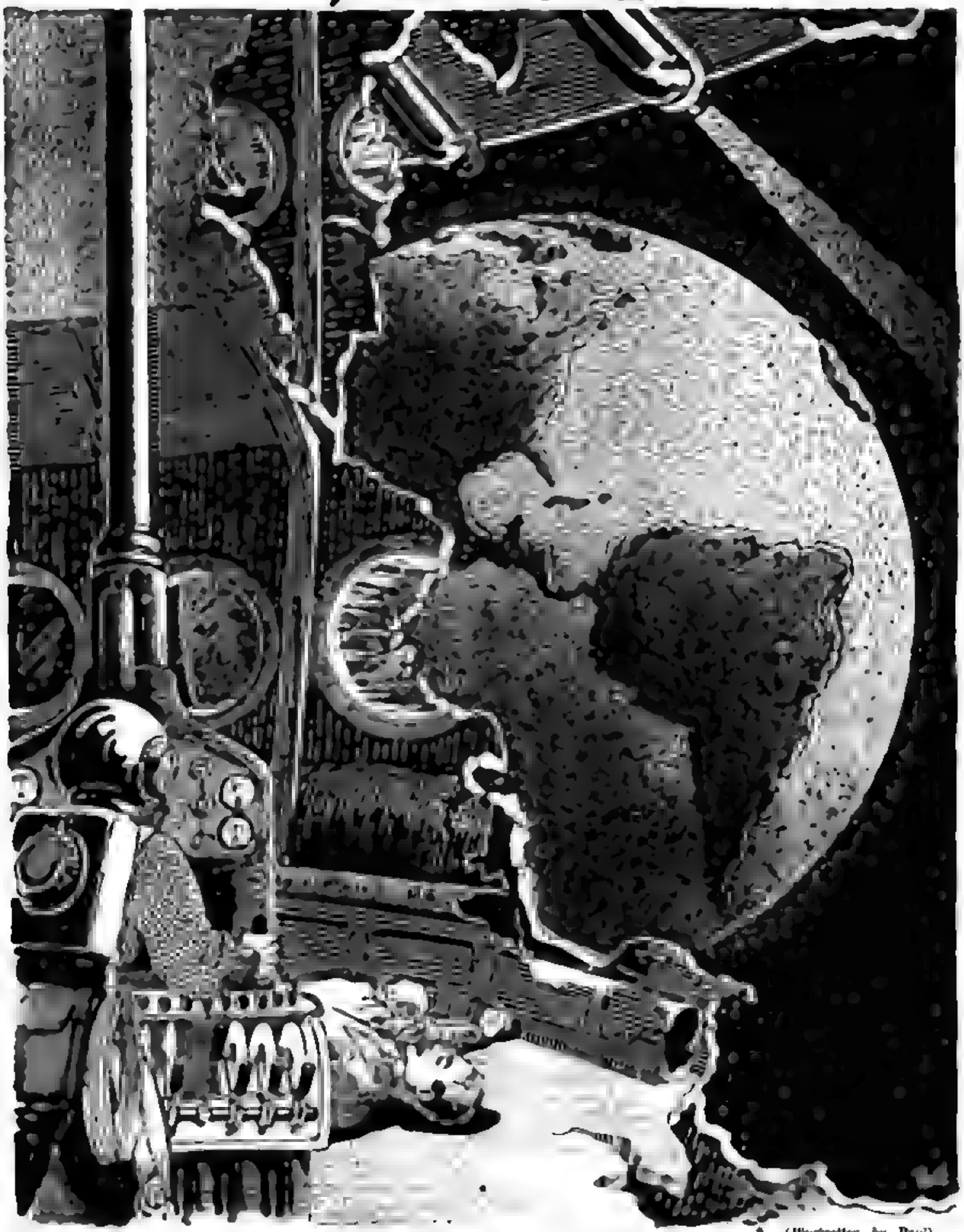
The black obelisk is embroidered with silver in the moonlight. At its foundation a full-blown rose in stone is visible, and below it is written:

"Fear of the Gods should be in all men, most of all him to whom they have given much."

THE END

The Asteroid of Death

by Neil R. Jones



(Illustration by Paul)

I was weak and exhausted when, like a huge rotating ball, the mother world loomed before me.

The Asteroid of Death

by the author of
"The Death's Head Meteor"
"The Electrical Man"

NEIL R. JONES

WHEN men succeed in building space ships and have explored the nearby planets, they will have satisfied for a time their thirst for adventure. So many new experiences, so much of startling discoveries, will fall to the Astronaut that it will take him quite a time to recover from it.

But even then it cannot be assumed that his thirst will be satisfied forever. There are nine solar planets to be explored, a dozen or so of planetary moons and countless asteroids. Each one offers to him a new set of conditions to meet, dangers to face, knowledge to be gained.

Of the asteroids, that belt of planetary fragments that lie between Mars and Jupiter we know little intimately. There are countless numbers of them, the "Thousand Islands of Space" and each one offers something new to ambitious explorers. Although they are too small to support life, they should offer, as our author shows in this unusual story enough adventures to satisfy anyone for a lifetime.

NEZ HULAN and I were classmates at the Martian University of Fomar. He traced his ancestry back two hundred years to 2360 A. D., to the time when his forebears migrated from the earth with a colonizing expedition. My father, Allon Kestron, had brought his family from Venus to the Martian city of Fomar. Father was inspired with a roving spirit. We were always on the go between the three worlds. I was born in the Venusian city of Deliphon.

When I entered the university at Fomar, I ceased the nomadic life that I might round out my education. Mother always held fond hopes for my success. Poor soul, before I completed my years at Fomar, she passed away to a world which cannot be reached in space ships.

For companionship at Fomar University and because his course of study paralled mine. I gained an intimate acquaintanceship with Nez Hulan. Nez was an extremely likeable chap. His manner was affable and his ways courteous. He was popular and well liked by both students and instructors. Nez and I spent a good share of our time in the laboratory together experimenting.

We soon came to know one another's peculiarities, tastes and ambitions. Our viewpoints were much the same. One point on which we differed was in our regard for the opposite sex. Nez was forever emerging from one love affair to fall into another heart tangle. I was not a ladies' man. I never loved but one woman—Zelna Larice. Unfortunately for me, Nez also became fascinated with her loveliness and charm.

I was a bit backward in the art of love, while Nez was always at ease and master of his emotions and speech. Nez was a handsome chap. There was no denying that, and he captured the love of our charming classmate at Fomar, golden haired Zelna. My timid, though well intentioned efforts yielded only a warm friendship, and she remained unaware of my passionate regard for her. I completely disguised my true feelings when I realized her love for Nez.

Most unsuccessful lovers would have hated Nez. My attitude for him, however, remained the same as always. He was my best friend, and I wished him luck.

Our years at Fomar rolled onward. My secret love for Zelna grew stronger. There was no other girl but her. Often, I was with her and Nez—sometimes with her alone. But always I masked my worship of her beneath the bonds of friendship. I am sorry to say that Nez was not always true to her. During their engagement, he had many secret affairs. Quite by accident, I was a witness to one of these acts of infidelity, and my conscience suffered. I could not, however, bring myself to warn Zelna.

One day, Zelna and I strolled together through the university's garden. She seemed strangely unhappy. In reply to my query concerning her low spirits, Zelna became confidential. She had learned of Nez's faithlessness. There had been scandalous reports regarding a certain woman. Impulsively, I blurted out a few kind words in Nez's behalf. Zelna came close. My heart throbbed as she pressed her pretty head upon my shoulder and kissed my cheek. It was the nearest to the peak of happiness I had ever come. I fought savagely against a consuming desire to crush her lovely figure in my arms—to smother her lips with kisses.

"Dear Reene," she murmured, "you'll make some girl very happy."

There was my chance. I might have seized the advantage, but the bonds of friendship were strong within me, and I respected my friend in spite of his weak character. Self control ruled over passion, though had Zelna remained another moment at my side, it is probable the course of many lives would have been altered.

Nez, by fervent promises, won back into the

good graces of Zelna. I never forgot that day in the garden, nor the electrifying contact of Zelna's lips. Following their reunion, Nez became a bit more sly and careful rather than faithful and true. The old life would not die out.

In laboratory, class and on recreation field, Nez and I enjoyed many pleasant hours, and so our years at Fomar passed away into memory. Eventually, the year of our graduation rolled around. We came through with flying colors, especially Nez. Zelna had still a year's work before her.

For my life's work, I could decide on no particular vocation. I had inherited too much of my father's adventurous spirit to settle down for long in one position. I was offered a position at the university as an assistant instructor in mathematics which I decided to accept for the time being, until my objective in life became more definite.

NEZ received an offer to accompany an expedition bound for the asteroids, those tiny worlds which lay clustered between Mars and mighty Jupiter. Incidentally, I also received an offer to go. Nez urged me to accompany them. Finding that my position at Fomar still awaited me when I returned, I signed up with the expedition. I wish now that I had never gone. The ways of Destiny are indeed complex, and I was Destiny's tool.

We were expected to be gone only a few months. Zelna bade us a tearful farewell. She and Nez were to be married on his return.

Our expedition comprised six members, including Maris Rourke, the commander. Rourke was a veteran space traveller, having seen many strange parts of the solar system.

The asteroids, at the time of our contemplated start, were in conjunction with Mars. Had they not been, our trip would have been considerably longer. It happened also that Mars was in conjunction with the earth.

I shall never forget my first glimpse of the asteroids. Our detector warned us that we were approaching one of the little worlds. We all watched through the transparent panelling of the port. The asteroid loomed before us, the far off sun lighting up its eerie crags. Like a jagged mountain it appeared, the shadows sharp etched in bold relief across the sunlit half. I judged the diameter of the planetoid to be five miles.

For the next month we wound our way in and out among the tiny worlds. Donning space suits, we spent much time in exploring their cold, dead surfaces. One day—I say "day" because we were conducting a daily routine according to Martian time—Rourke came to me.

"Kestron, I'm giving you a dangerous mission."

"Yes, sir."

"It is your privilege to refuse if you wish."

"What is it?" I inquired.

"Do you remember the crater hole we discovered yesterday—on the asteroid out there?"

I nodded.

"I want you to explore its depths and report to us by radio. Are you game?"

"Certainly."

Nez came up to where we stood. "May I go with Reene?" he asked.

I waited, hoping Rourke would let him go with me. The commander wrinkled his brow and scratched his head. "No, Hulan, I'm afraid not. I want to keep you here to help repair the radium repeller rays. They haven't been working any too well lately. The meteors have been coming entirely too close for comfort."

The space ship stood off from the asteroid several miles while I donned my space suit and prepared to explore the deep crater. The asteroid was one of the smaller variety with a diameter of twenty miles or less. I soon located the crater and swung down into it. The lights on my space suit were unnecessary, for I found the rough sides of the shaft luminescent.

Rourke had been right in his assertion that the mission was dangerous. Rough crags threatened to tear open my space suit, releasing my oxygen supply into the airless void. Taking drops of several hundred feet at a time, floating down the center of the great shaft, I found that the crater hole extended deep into the asteroid. From time to time, I radioed reports to Rourke through the phone in my helmet. He sent back encouragement and instructions.

The crater seemed endless in length. I had plumbed its depth for miles when suddenly I shot down into a vast, spherical cavern. My body bobbed back and forth across this subterranean cavity like a pendulum, finally coming to rest in the very center. I floated free, as if in space. The crater had brought me into the very center of the asteroid. I shouted my discovery to Rourke. He replied—then his voice was cut off by a sharp click.

Shadowy forms closed in upon me. Something seized my neck in a tight grip. Raising my atomic pistol, I fired into a hideous face which stared into mine. Dismal creatures on leathern wings flew all about me. Once again I fired my atom gun, this time over my shoulder. The clutch on my neck was released. I became aware of a strange atmosphere about me. A horny beak snapped at me as a dark form flapped past.

With the reaction attachment on my suit, I propelled myself back in the direction of the shaft. The bat creatures attacked me viciously so that often I was hard set. My blazing atomic pistol cleared a way for me, and I shot up the shaft, the winged terrors of the asteroid in pursuit. They followed only a short distance, however. In the upper reaches of the crater, the atmosphere in which they lived became thin, eventually dying away into vacuum.

Disaster Near

WHEN I emerged from the crater, I was surprised to find the space ship gone. My radiophone calls brought no reply. The ship with my five companions had vanished, and I was alone. I grew near to hysterical with a sudden realization of my dreadful position. Then I thought of my detector. All space suits were equipped with one.

Consulting the detector, I found the space ship located in the general direction of the asteroid's antipode. Using the reaction equipment, I shot away into space, circling the asteroid in search of the ship. I could conceive of no reason for Rourke's change of position, and I was a bit anxious. It was not like Rourke to do this without notifying me.

Finally, I discovered the ship. It was moving erratically, shifting slowly around the little asteroid at a distance of several miles. I sent out a call—and received no answer. My heart jumped into my throat as I took in the horror of the situation. The space ship was twisted and bent. A ragged hole gaped at me from one side of the derelict. The answer to the tragedy was all too apparent. The radium repeller rays had failed, and a wandering meteor had done the rest.

Coming alongside the wreck, I entered the control room through the jagged rent torn in the side. What I had anticipated, I saw. My five comrades lay dead, three of them mangled beyond description. Though I saw nothing but what I had expected, the sight of Nez Hulan gave me a distinct shock. One leg was gone—an arm torn away—his skull was fractured. A long, metal stanchion pierced his left side.

I was seized with an intense loneliness. I, too, was doomed—unless—

I hurried to the observation chamber, my startled eyes seeking our ship's radio sending outfit. It was shattered. I could send no word for help. The radiophone in my helmet was capable of transmitting sound only a short distance.

From the observation chamber, I descended into the machine room. The mechanism was nearly intact. The only damage done had occurred from the shock of the meteor's blow and not from direct contact. It might yet be possible to reach Mars, if I found it possible to make the necessary repairs and adjustments.

The mechanism which afforded the ship motive power was the only apparatus to which I gave my attention. Success rewarded my efforts, and the ship, under my control, sped toward Mars.

The air rejuvenator on the back of my space suit functioned perfectly, else six instead of five corpses would have tenanted the space ship. My biggest problem was food and drink. Though there was plenty aboard the craft, it was impossible to get it to my mouth. The vacuum of space permeated the entire ship, and I dared not remove my helmet.

Endless days must have passed as alone, without food or sleep, I guided the craft toward the dark orb of Mars. Then came hours of stupor when I was hardly aware of being alive . . . . . then I must have dozed or fallen into unconsciousness, for when I finally awoke I discovered with horror that I had passed beyond Mars and with my accelerated speed and the sun's attraction I was being drawn toward the solar furnace.

Only one thing would save me, to try to connect with the earth and to make a landing there. With feverish intentness now, fully awake to my danger, I worked at the controls, guiding the craft toward the bright star that was the earth.

I was weak and exhausted when like a huge, rotating ball, the mother world loomed before me. I slackened the speed of the ship to a minimum as I raced into the upper reaches of the atmosphere.

Weird, wailing and shrieking noises whistled outside. An ethereal glow of pale radiance replaced the blackness of space. I exploded several reverse charges to check my meteoric speed as the earth's great face overwhelmed my vision. The ship now dropped slowly down upon the vast continent of North America. Ten miles above the surface it grew unbearably hot inside my space suit, yet I dared remove no part of it. A dizzy, sickening feeling assailed me.

With the wind howling about the wrecked space ship which I knew must now run wild if I lost my senses, I became desperate and removed my helmet. The cold, rarefied atmosphere overcome me instantly, and I sank unconscious among my dead comrades.

I STARED up at a white ceiling. A head projected itself between my eyes and the ceiling.

"Where—where am I?" I asked.

"In Cleveland."

"Did the ship come down safe?"

"No—it crashed."

"Then how am I—"

The hospital attendant smiled. "You were seen descending while many miles above the earth. You landed in the ocean and you and the rest of your crew were fished out. You were nearly dead when they brought you here. What happened to your expedition?

Briefly, I told him. Then I asked him a question which had been bothering me. "How long have I been here?"

"Only a few days."

"Days!"

"Yes. I have other surprising news for you too. Several of the surgeons here are conducting a rather elaborate experiment on your dead friend, Nez Hulan. They are bringing him back to life."

"Impossible!"

"You must realize he and the rest of your companions were killed under strange circumstances. The coldness of space preserved them—they had not yet started to bleed when we found your ship dropping down out of the sky."

"But his head was fractured!" I deplored.

"The surgeons have given him an aluminum cranium with radiophone ears. His brain has been replaced in the aluminum brain pan."

"His heart was pierced by a piece of the ship's wreckage!"

"True, indeed," replied the attendant, smiling in tolerant amusement at my stupid surprise. "The damaged organ has been removed and a rubber heart substituted."

"He'll never live!" I cried, aghast at such a strange revelation.

"He's alive now—but he's unconscious."

The strange news stirred me deeply. My in-

formant continued his story which seemed hard to conceive as reality.

"What little was left of his legs and arms were useless to him. They were amputated. Already, an inventor, working in collaboration with the surgeons, has promised to equip the man with metal arms and legs which he may use quite handily."

"Why—he's nearly a machine!" I exclaimed. "Practically a robot!"

"Well, about half and half. I'd call him a human robot."

"What happened to the other—er—corpses?"

"If you recollect, the others were beyond any repair. They were rejected by the surgeons who selected Hulán's body for the great test."

"When—when will he recover—so that I may talk with him?" I asked.

"Not for several months. You see, we'll not let him regain consciousness until the stumps of his severed limbs have healed."

The next day I was discharged from the hospital as cured. I lost little time in speeding across the cosmic void to Fomar, apprising Zelna of the strange news, assuring her that her lover would be saved.

"Oh—it's wonderful!" she exclaimed, her eyes glistening. "And you—you saved him for me!"

I left her a bit too abruptly, I fear, and went in search of Professor Crayton. I dared not remain in her presence longer. Though her gratitude was to me a treasure divine, yet I feared it—feared that my mask would drop.

My position as instructor awaited me. At once I plunged into the work at hand, striving to forget the endless night of horror following my trip to the asteroids. We all looked forward to Nez's recovery, especially Zelna and I.

One day, a month later, while walking across a large hall of the university, someone hailed me from behind. I turned. A man hurried toward me in lengthy strides. He was no one I had ever seen before. And then, as he came closer, I recognized him. It was Nez Hulan. I was amazed at the transformation death and the surgical instruments had worked upon him.

Two gleaming, metal arms swung by his side. His face wore a dead white color. Just an inch above his eyebrows, an aluminum cranium coincided neatly with flesh and bone. His clothing concealed his mechanical legs which I later learned carried him easily without extra effort. The aluminum cranium appeared like a tight helmet. A radiophone ear projected from each side of his head. His appearance was grotesque in the extreme. He smiled at my surprise. Then he spoke.

"Greetings, Reene! Surprised to see me so soon?"

"Why—yes—rather!" I managed to exclaim. "It was scarcely a month ago when you were operated upon in Cleveland!"

"I know," he replied. "Since then, my recovery has been rapid."

Back from the Dead

THERE was a strange, metallic click to his voice which I had never before heard. His steel fingers closed upon mine in a handshake. I thought he was going to break the bones in my hand. With difficulty, I repressed a scream of pain. The smile crossed his face again. He seemed to realize, yet he made no apologies.

"Thanks to you, I'm back here alive again," he said.

"Zelna will be glad to see you," I told him. "She has been waiting."

"Very good. I'll go and see her presently."

"How do you feel?" I asked, both curious and solicitous as to the general outcome of the surgical operations.

"Pretty well," he replied. "I'm thinking of settling down here as an instructor if I can qualify." Again the smile spread crookedly across his pasty countenance.

"That's fine!" I enthused. "You may certainly depend on me to help you all I can." And then I questioned him in regards to the manner in which the space ship had been wrecked. He proved the truth of my previous theory.

"You were lucky to be on the asteroid. Rourke and I were tinkering with the radium repeller rays—then oblivion!"

"You're a living wonder," said I, marvelling at his weird experience.

"A freak, you mean?"

I felt a bit hurt at the words. His lips curled once more in the enigmatic smile. I thought it strange that he did not laugh. In the old days, Nez Hulan had laughed often and heartily. We discussed other topics in which we held mutual interests.

Always I noticed the strange note in his voice. When he talked loud, his voice was rasping. His smile suggested amused contempt, yet I believed this effect due to his recent illness, merely an involuntary facial contortion. He seemed strangely cold, utterly devoid of all warmth of character. This too, I believed he would overcome. What might one expect so quickly after the experiences the man had undergone?

I saw Zelna later, after she had talked with Nez.

"How terrible he looks!" she emphasized. "And he acts so unnatural—so strange!"

"What can you expect?" I asked her. "He'll be himself once more, Zelna, when he's had a chance to recuperate."

"I hope so," she said gravely. "We're to be married."

"When?" I asked, a sudden chill striking my heart.

"No definite date. Whenever I think Nez is well—completely cured."

"But he seems well enough now," said I, remembering the tremendous pressure of Nez's handsake.

"Thats' not it, Reene. Can't you see the difference? It's his mind, I'm sure."

Nez Hulan was successful in his efforts at securing a position with Fomar University. He became a medical instructor, an assistant to Professor Climm. I was pleased with his success and waited for the reversion to his old character which I hopefully expected.

But I was doomed to disappointment. Nez

Hulan remained cold and indifferent. Like the robot he so nearly resembled, he became practical to the extreme. The strange adventure he had undergone had not dulled his intelligence by any means. He proved this in many ways. Foremost in my memory is an event which took place one day when a question regarding supermathematics had me stumped. Nez solved it for me instantly, and I was amazed at his brain power, his unusual ingenuity.

"Why, Nez, you've discovered a new mathematical formula to govern those questions!" I exclaimed. "It is much better than the old one!"

Nez, the light glittering from his metal skull, wore an attitude of satisfaction and supercilious contempt. I later came to the conclusion that the removal of his brains from the fractured skull to the aluminum substitute had stimulated them into greater activity.

As the months passed by, other instructors also discovered his super intellect, and they respected it. They also became aware of his cold, contemptuous manner and were repelled by it. Nez Hulan became exceedingly unpopular, and I myself was rather discouraged with him. Zelna and I remained practically his only constant associates. He seemed not to care. He had become a super-intellectual, human robot. I came to doubt whether he had a soul. To this day, I believe he was recalled to life without one.

One night, I was awakened by a muffled scream which brought me out of a sound sleep. It was not repeated, and so I was not sure but what I had dreamed it. I had eaten heartily that evening of certain Venusian vegetables which had never seemed to agree with me. They had caused me nightmares before.

I OPENED a window to let in the fresh air of a clear, crisp, Martian night. I leaned out the window. The sky was clear, both moons of Mars riding high in the heavens. Phobos moved perceptibly away from Deimos with its faster speed. My room is located directly beneath Hulan's laboratory. Out of the laboratory window above me there came a bright flash of iridescence which shot away into the night, disappearing. Fearing an accident, I hurried upstairs to the laboratory. To my utmost surprise, Hulan himself emerged from the laboratory, closing the door behind him.

"Did I disturb you, Reene?" he asked with unusual politeness.

"What was the flash out the window, Nez? Was there an explosion?"

"You heard no concussion, did you?"

"No."

"I was experimenting with a new device for the release of atomic energy. The flash you saw was the ejection of exploded atoms."

I went back to bed, realizing that Hulan's zealous efforts had kept him up later than usual.

"The next morning, Professor Crayton approached me in my study. "Say, Kestron, where are the new rocket tubes we were supposed to have?"

"Aren't they here yet?" I asked. "Burton should have brought them up from the supply room."

"Haven't seen Burton all morning."

"That's strange," I observed. "I haven't seen him either. He's always around here somewheres."

The call went out for Burton, the laboratory attendant. He was not found. Several days passed. Still he put in no appearance. The mystery deepened. No reason was apparent for his leaving so suddenly and quietly. There had been no thefts, and Burton's character was above the possibility of a scandal.

Occasionally, I saw Zelna, but usually she avoided me. A shroud seemed draped over her characteristic gayety. She was strangely oppressed, and it took but little reasoning to realize why. My heart ached for her. Zelna's vivacious manner had changed to a listless attitude, and a dull, hopeless light shone in her blue eyes. My concern for her happiness grew intense, but again I felt that it was none of my affair, that I had no business prying into other people's personal affairs.

Upon the third day following Burton's disappearance, I made a startling find. Underneath my window, scattered on the purple sward, I found several small bits of metal. Examining the pieces closely, I found them to be buttons, curiously bent, warped and twisted. I recognized them. They were buttons which I myself had made from *kinolurin*, a queer metal which Professor Crayton had brought back with him from one of Jupiter's moons. I had sewed them on a laboratory coat of mine. The coat had been a bit too small for me, and I had given it to Burton.

The association of thoughts, stimulated by the discovery of the buttons under my window, raced like lightning through my head. I recollected the muffled scream which had awakened me a few nights previous—the strange ejection of iridescence from Hulan's laboratory window above mine—Hulan's unusual courtesy towards me—the disappearance of Burton on the following morning. I had found a clue to Burton's disappearance.

Hulan had murdered Burton. He had disintegrated his body into atoms. Substantiating this theory was the fact that the *kinolurin* metal is exceedingly difficult to disintegrate. I shuddered at the thought. Hulan had lured Burton to the laboratory and had made him a subject for one of his ghastly experiments. In a manner unknown to me, the machine man had reduced Burton's body to its component atoms, shooting them out the laboratory window into the stillness of the night. Burton's scream had awakened me.

It was horrible to know and yet be unable to act. A killer, one of the worst kind known to mankind, was at large in the university of Fomar. I dared say nothing, for I had only strong suspicions and but the flimsiest of proofs. It was revolting to know that the best friend I had ever possessed was a cold-blooded murderer.

That very day, while my mind was in a whirling chaos of conflicting thoughts and resolutions,

Zelna came rushing into my study where I sat alone. Tears coursed down her pretty face.

"Oh, Reene, I can't stand it any longer—I can't go on with it!"

"Tell me," I comforted her. "What's wrong?"

She dried her tears on a tiny square of white linen, pulled herself together and faced me. Never in all my days have I been called upon to look into such sorrowful eyes.

"I'm not going to marry Nez," she said quietly. "I can't do it. He's not the kind of man I want. Not just because of his new appearance. I realize now how silly I've been all the time. It was a mad infatuation. It's taken all this to—to bring me to my senses."

"Why," I exclaimed a bit awkwardly, bewildered with so many startling events, "theres no law to make you go through with it—you're free!"

The Fiend Awakens

SHE came and sat down beside me, her clear, honest eyes looking straight into mine, as if searching for something beyond. "Reene, do you remember that day in the garden—when I kissed you?" I felt my blood tingle and leap through my veins as she laid a hand upon my arm "Wasn't there something you held back from me—something you wanted to say?"

"Yes," I replied, too tongue tied to say more.

"Do—do you want to say it now?" she asked.

Giving way to my impulses and ripping down the barriers of restraint which I had kept erected so long, I seized her in my arms and kissed her lovely face and lips. She was mine. Woe to any man who tried to take her from me.

"Reene—I was blind not to have realized it long before this—you loved me all the time—and I was a fool, a silly fool."

"We must tell Nez," I said. "It's the right thing to do."

"Don't bother yourself!" spoke a rasping voice. In the doorway stood Nez Hulan. "Take her and be damned!"

With these words, he strode from the room.

The very next morning, the sting of death struck again. Professor Climm was found dead in his room, every bone in his body removed in some mysterious manner. Professor Crayton's discovery threw the entire university into a furore. Following the general alarm, I was one of the first to reach the scene and view the body. By some weird process, every bone in Professor Climm's body was gone. Not a single scar marred his flesh. The preceding night, he had retired to his room well and healthy. Now, his flesh, a shapeless mound of jelly, lay cold on the floor of his room.

I alone recognized the fiendish ingenuity of Nez Hulan. This new horror was the latest brain child of his perverted genius. How he had accomplished the insidious removal of the bony structure was beyond my power to ascertain, but that he was guilty I was willing to swear. I decided to bring him to account for the act. Resolutely, I started for his laboratory. When I entered, he appeared not to have noticed the confusion outside. I made no preliminary advances but went to the heart of the subject with brutal bluntness.

"Nez, you've murdered your superior! You've killed Professor Climm!"

He expressed genuine surprise. The sudden accusation coming so totally unexpected, staggered him. With recovery he professed ignorance, assuming his usual arrogant confidence and aloofness. The supercilious smile curled his lips as he regarded me as one would a worm.

"Professor Climm murdered? I know nothing about it. I didn't even know that he was dead."

I looked straight into the cold gray eyes of the machine man, the living counterpart of my old friend, and hurled another accusation at him.

"You killed Burton too! You disintegrated his body—and his clothes—all except the buttons on his laboratory jacket! I found them! I heard Burton scream! You fiend!"

My voice rose in indignant wrath. Hulan's deathly white face grew whiter. His eyes shifted and narrowed, and he glanced warily about him. With a merciless sneer of contempt, he reached forth a steel arm and clutched me with strong, metal fingers.

"You ignorant clod! You've learned a bit too much! You took the woman I wanted! Now, die!"

I struggled to escape, but held me like a vise. One arm of the demon closed about me, and I thought he was going to crush in my ribs. I really believe it was his initial intention, but suddenly he relaxed his grip.

"I'll rid myself of you like I did Burton!" he hissed. "Yes! I killed him—Climm, too! I killed Climm without moving a foot out of my laboratory! A white light through the fourth dimension into Climm's room, and his bones turned to water!"

With a frantic gasp, I breathed air into the tortured lungs which Nez Hulan's steel arm had constricted.

"They'll be looking for you next!" his voice clicked. "You'll go out in a flash of atoms like Burton did! Then I'll kill Zelna—slow—very slow!"

I am a fairly heavy man, but it was mere child's play for the machine man to lift me far above his head in one steel hand. The fingers bit into my flesh. Hulan carried me to a corner of the laboratory where a large cylinder stood mounted, one end pointing at a window, the window from which I had seen the bright flash emanate. The cylinder resembled the barrel of an archaic cannon.

With one hand, the human robot lifted the top part of the cylinder. It swung aside, revealing a hollow interior. Hulan lowered my body down into the cylinder and attempted to close the door on me.

I FOUGHT desperately. The ferociousness of my attack forced Hulan backward. He stumbled, tripped and fell. I seized my opportunity and sprang from the disintegrator gun to escape the doom of a horrid death. Swiftly, I

eluded the clutching fingers of Nez Hulan. With a snarl, he was after me.

Turning quickly, I smashed my fist into that dead white face, just below the aluminum forehead. Down he went. Coming to his feet once more, Hulan was after me again, relentlessly. Realizing the futility of combat against the mechanical arms, I retreated. A weird light shone in the narrowed eyes of Nez Hulan. Death, cold and calculating, faced me. I circled the laboratory, keeping out of his reach. Rapidly I evolved and discarded wild plans of action. There were no weapons in the laboratory, and Hulan was careful to keep between me and the closed door.

Picking up a heavy piece of apparatus, I hurled it at him with all my might. He dodged but soon enough. The object struck him upon his shining, aluminum head, crushing one of his radiophone ears. This failed to stop him. The blow caused him pain, however, for he cursed me in the vilest language imaginable.

He backed me in behind a laboratory table. I was cornered there. On the shelf behind me were many bottles. I recognized the contents of one receptacle and decided to gamble everything on one desperate chance. Seizing the bottle, I dashed it to the floor before the feet of the human robot. A stifling, white cloud enveloped him. While he groped about in its midst, unseeing, I raced to the door.

But I never opened it. Nez leaped out of the cloudy gas and pulled down on a lever. Across the doorway there spread a close set arrangement of violet shafts of light. I knew better than to run through it, recognizing the disintegrating qualities of the atomic ray. Nez was after me in an instant. I turned in my tracks but he was too quick.

With a rush, he forced me backward upon a square metal plate set in the floor. Nez Hulan, careful to avoid contact with the plate, pulled on a cord which dangled above my head. A paralyzing ray of blue light shone down upon me.

"Too late for the atom gun now!" he rasped. "This will hold you!" For a moment, he seemed undecided as to his further action, and then he walked over to a giant tube set vertically against the wall. He released a small lever at the bottom, and a red liquid filled the tube.

"Stay there!" he rasped. "When the liquid rises and runs over the top of the glass, the entire laboratory will be blown to bits—you along with it!"

I struggled desperately, but not a muscle of my body responded. My breath came heavily. Fascinated, I watched the red liquid rise in the giant tube.

'Now I'll get Zelna!" he shouted fanatically, shutting off the deadly rays in the doorway. "I've saved something special for her!"

Again I made a superhuman effort to leave the metal plate underneath the blue light. The attempt was useless. Nez ran out the doorway, heading for Zelna's dormitory. On the floor above, I heard the sound of running footsteps, the muffled voices of students and instructors. I opened my mouth to yell. A hoarse whisper was the best I could do. The red liquid was already halfway up the length of the tube, climbing gradually higher. To my ears came a faint, muffled scream.

"Reene! Help! Ree—"

It was Zelna. Madly, I tried to free myself from the damnable clutch of the metal plate and the ray. Down through the corridor and past the door ran Nez Hulan. He was carrying Zelna and seemed to be in a hurry. My body sagged outward. In my sagging body, I recognized a lone chance.

The liquid was nearing the top of the open tube. I struck the metal plate with my arms just outside the aura of blue light. Seizing hold of a metal stanchion, I dragged myself free of the paralyzing ray and sprang to my feet. The liquid bubbled over the tube and commenced running down the outside.

With a shatter of glass, I leaped through the nearest window to the ground fifty feet below. While still in the air, I heard a vibrant explosion behind me. Several objects hurtled through the laboratory window as the building rocked to the terrific detonation. I was a bit shaken up when I landed, but I was saved injury by Mars' lesser gravity.

Across the lawn ahead of me I saw Nez Hulan racing in long strides, carrying my beloved Zelna. Straight for the space ship hangars he ran. Before I could reach the hangar into which he carried Zelna, he had boarded a large space liner and set it into motion. Like a comet, the huge space ship shot skyward, heading into space.

Pursuit in Space

SWIFTLY, I boarded a small space flier and was off in pursuit. Almost simultaneously, a ship from the Fomar port of the Interplanetary Guard took after the liner. The latter craft was not scheduled to leave Mars on such short notice. I recognized the pursuing N-427, commanded by Captain Jan Prentice. Side by side, we raced after the stolen space ship in which Nez Hulan was carrying off my Zelna.

Nez had made a mistake in his otherwise faultless plans, or so I led myself to believe at the time. The space liner lacked the speed of our smaller ships. Rapidly we overtook him. Prentice and I radioed back and forth, keeping an eye on our indicators to watch our approach to the stolen liner.

"He's heading for Deimos!" exclaimed Prentice.

I looked ahead of me. A small, round blot of dull red among the scintillating stars grew broader.

"There's no refuge for him there!" I yelled.

"Maybe not! But he's heading that way!"

I now consulted by detector and indicators. We were close behind Hulan. Like meteors, the three space craft shot toward the little moon of Mars. My detector commenced acting queerly. One of the little needles swerved suddenly to one side.

"A small flyer has left the liner!" Prentice an-

(*Continued on Page* 138)

The Man-Beast of Toree

by Ralph T. Jones

(Illustration by Bowland)

In his right paw he held the whip, and I felt it descend, in one cruel stinging sweep, across my straining legs.

IT is now two years since the world was mystified by the appearance of that strange creature called, by the newspapers, the "Man Animal." The document now made public tells, for the first time, the terrible life story of this unfortunate being.

In the early summer of 1948 a Texas farmer, hunting some straying cattle, was startled by the sight of a completely nude man running toward him from behind a small hill. The Texan stopped his automobile and the man, with a queer throaty cry, flung himself to the ground in a suppliant posture.

To his finder's questions, the man could give no coherent answer. He mumbled unintelligibly, with a few words that sounded like "Earth", "Tom," and "Home," and so forth recurring several times. He appeared to be utterly harmless, in fact, timid.

After some effort the farmer induced the creature to get into the car and they drove to the ranch house some distance aw. some distance away. Food was placed before the stranger which he ate, greedily, like an animal, gobbling it directly into his mouth from the dish. Having eaten he walked to a corner of the room and, curling up on the floor, promptly went to sleep.

The man was not only devoid of clothing but his skin was completely hairless, except for his head and his eyelashes. He was deeply tanned, as though he had been exposed to the rays of a warm sun for many years, but was evidently of Caucasian origin. He was slightly over six feet in height and of remarkably fine physique with smooth muscular development denoting unusual stamina.

In the man's nose was a metal ring hanging from the fleshy ridge between the nostrils. It must have been there a long time as there was no sign of a recent wound where the metal pierced the flesh. Both his thumbs were missing, amputated at the second joint. Where scars should have shown the skin was perfectly smooth with no trace of an operation remaining.

One peculiarity noted by all who saw the creature was the beautiful condition of his skin. It was of a deep tan color and thicker and stronger than usual. It was, as said, entirely devoid of hair and had a strange polished sheen. The hair of his head was long and was twisted into a short thick plait that hung almost to his shoulders.

Needless to say the "Man Animal" was a nine-day sensation in the press of the world. Scientists admitted they could not account for his condition. The man was unable to make himself understood though he tried hard enough to talk intelligibly. He pointed, many times, to the stars and some reporter wrote a story to show he must be a visitor from another world. Such a theory, however, was so far-fetched and inconceivable, even for the advanced thinkers and scientists of our day, that little credence was placed in it save by the imaginative romancers.

Finally public interest died away.

As chief alienist for a large institution for the mentally diseased I had been intensely interested in the case, and when I offered to keep the "Man Animal" at my sanitarium the proper officials gladly consented. I expect they welcomed the suggestion inasmuch as the man had a disconcerting habit of discarding the clothes put upon him and appearing completely nude, irrespective of time or place. Also his lack of thumbs made it impossible for him to perform necessary personal services for himself and it was more trouble and expense than anyone else wished to assume to provide personal attendants for the creature.

RALPH T. JONES

IT is rare that we find a story that grips one so painfully with its realism as the present opus. It not only strips away from us much of our feelings of superiority, but gives us an insight into life, had the course of man's evolution been different.

We know that it may have been only a series of accidents that brought man to supremacy on earth. His thumb, for example that permits him to work with tools, and pick up and handle objects deftly, may have been a vital factor in raising him above the level of the beast. The discovery of fire may have been only an accident, that would have come only to an animal using his hands as man does.

It is quite possible that on another world, the process of evolution may be quite different and some alien species may have risen to supremacy. If man exists on that world, and were the thumbless, for example, he might be no better than a lowly beast of the fields.

This story deals with the problem outlined, and though much of it may seem horrible to contemplate, yet by its marvelous descriptions it teaches a lesson that strikes deep down into everyone of us.

AFTER installing him in comfortable quarters in my hospital I decided to discover, if possible, the history of my strange patient. With careful treatment and much patience, I believe I have partially succeeded. We have used the recently perfected hypnosis method, turning the patient's mind back, by the power of suggestion, to earlier periods of his life. I must admit, however, that the treatment has not been entirely successful in this case. We have restored the power of coherent speech and the patient's memory seems to function perfectly over the later period of his life. But of his origin, his childhood and his early youth, we have learned practically nothing.

His memory seems to stop at the time of the kidnapping which inaugurated that astonishing experience through which he passed—an experience so terrible it is entirely possible the senses have been blunted by suffering and fear. The apparent paralysis of memory for events prior to the kidnapping may be directly due to shock. I must admit, too, that even had we been able to identify him fully we probably would not have made our discovery public. For some parts of his experience are so shocking that it would seem the part of kindliness to let his family, if he has any, continue to think him dead.

I should say that the events herein recorded cover a period of about ten earth years. Our patient declares that, as closely as he can estimate, the divisions of time into days and seasons on the world where he spent so dreadful a portion of his life are approximately the same as on earth. He admits, however, that he lost practically all conception of time during the long periods of his monotonous existence and the elapsed times he refers to in his story are mere guesses.

It should also be remembered that time, after all, is relative. It is possible that, measured by earthly standards, his life on Toree, as he calls the place, covers either much more than ten years or much less.

The story here told is, to all intents, just as it came from the lips of "Tomman". That is the name he gives himself. With the invaluable aid of my friend and associate, Dr. Fischer, the story has been transcribed as he told it with no change except the necessary clothing of the facts in easily understood language. The thumbless hands, of course, prevent Tomman from writing, while his ability to read is, as yet, rudimentary.

Before relating the actual story of Tomman I would like to say I am convinced it is true. I say this with full realization that it will probably be disbelieved by scientists generally. Yet, having heard it from the lips of the man himself—at first in halting phrases and then more easily as the tongue, long unused to English, regained some of its fluency—I cannot doubt the main facts of the story. If it is not true, if it is a piece of fiction or the product of a disordered brain, how account for the condition of Tomman when he was found two years ago? Why should he invent such a story with all its ramifications and all its verifying detail?

I must also remind all who read that there is no physical reason why there should not be, somewhere in the universe, planets where man, as we know him, is not the dominant creation. Evolution of man to the overlordship of earth, instead of some other of the myriad forms of life, seems to have been nothing but an accident, after all. On some other world the accident may have assisted an entirely different form of living being to supremacy.

If the story that follows is not true what other explanation can be given for the mental and physical condition of Tomman, the "Man Animal" when he was discovered on that Texas prairie?

THE STORY OF TOMMAN, "THE MAN ANIMAL," AS TOLD TO DR. TOMLINSON AND DR. FISCHER.

CHAPTER I.

The Coming of the Creatures

I REMEMBER the day was warm and sunny. I was lying on green grass on the top of a small hill. No one was with me and I think I had been on a holiday or pleasure trip of some kind.

I must have fallen asleep in the sunshine. For suddenly I awoke. When I tried to move I felt a cord around my ankles, tying my feet together. As I struggled to lift myself to a sitting posture another rope suddenly tightened around my body, pulling me backward. I was trussed so effectively I was entirely helpless. I turned my head and saw, for the first time, a group of those creatures in whose power I was doomed to pass so many years. A surge of hopeless terror swept over me as I stared at the things. My emotion was instinctive and I think any human being would experience the same sensation of fright and utter helplessness on first seeing my captors.

They were not men, though they stood upright upon two legs. They were short, the tallest barely three feet in height and the average several inches less. Their bodies were slender with legs and arms disproportionately long though, as I soon discovered, they possessed surprising strength. Their heads were large, two or three times the proper size for their bodies according to human standards. They seemed to lack necks entirely.

Their movements were slow and deliberate. Their walk was clumsy, the thin crooked legs striding in long, uncertain steps. For short movements they had a habit of hopping and were thus able to jump easily for a distance of six or eight feet, or to heights of four or five feet. I don't think they were able to run at all. At least I never saw one move faster than that uneven walk or the hops by which they negotiated lesser distances.

It was their features however which were most surprising and which aroused that feeling of repulsion and fear that, through all the years I lived among them, I never overcame. The skin was mottled, blue and green and brown. It was quite smooth with no trace of hair on head or face and had a wet, glistening, clammy appearance.

Their eyes were large and protruded from lidless sockets in shockingly unnatural manner. As they stared at me I found myself unable to look into their eyes. Some superior power seemed to emanate from those great orbs and, involuntarily, I turned my glance aside.

The things had no noses. Small openings on either side of the wide mouths apparently served as the organ for breathing.

It was the mouths, however, that were most horrible. Large, they almost bisected the lower half of the head. They had thin, bloodless lips and long rows of tiny, sharp-pointed teeth like the serrated edge of a bony saw rather than the separated teeth of men. When they opened their mouths they revealed a mass of hateful, dough-colored flesh. I had the feeling that food would be sucked down the narrow throats and absorbed in the noisome gullets instead of being swallowed in human fashion.

The closest comparison I can make with any earthly creature is the frog. If you can imagine slender frogs, a little less than three feet high, walking upright and with large, pop-eyed heads protruding above tunic-like garments, you can most nearly imagine the things I saw for the first time when I awoke that day so long ago.

I spoke to the things but they paid no attention to my voice. I shouted and, finally, screamed in terror as they lifted me from the ground. I was no longer trying to reach their indifferent ears but was yelling desperately for help to whoever might be within sound of my voice. But no help came and I was borne rapidly downhill. I was bound so tightly I could not resist and they paid no more attention to my cries than we would to the screams of a wild rabbit caught in a trap.

At the foot of the hill, beside a little clump of woods, they carried me to a strange vehicle. It had a form of fuselage completely enclosed and I saw no wings nor motor, but I had no time to notice details. I was pushed inside and laid, still bound, upon the metallic floor at the rear of the craft. The frog things entered after me, closed and sealed the door and I felt the machine rise smoothly upward. I was starting on an adventure surely stranger than any man had experienced before, in the power of beings that might be friendly or might be foes to all things earthly.

AS I felt the speed of the air vessel rapidly accelerate I tried to compose my thoughts. I tried to regard my position as one which many men might envy. I was certainly enjoying, if that be the word, a unique experience. I sought to steady my whirling brain and prepare myself to accept, quietly and resignedly, whatever might be the outcome.

I have a recollection of the passage of a long time before I felt the land. The creatures became intensely active, in their slow, deliberate way. Our ship seemed to be anchored to some solid body outside and I saw a double door opened. I was again lifted and carried into what was evidently a much larger vessel. Later I learned it was a space ship, capable of cruising at terrific speed through the tremendous distances of space to the world of Toree. That is what they call their planet. I never knew it by any other name and cannot identify it by its earthly name.

I was carried down a corridor and pushed into a small, dark room. There was neither window nor furnishings and only the one small door. I was unbound, my captors withdrew and I was left alone.

As my eyes grew accustomed to the dim light and my cramped limbs regained their powers I examined my prison. The door was tightly fastened from the outside. The room was about eight feet long and four wide and my head came within three inches of the ceiling. The walls and roof were of metal. I tried to scratch the surface with my pocketknife but could make no impression upon it. There was a space, about two inches wide, between the top of the walls and the roof and through this opening fresh air and a faint light came. Across one end of the cell was a sort of shelf, or trough, of the same hard metal as the walls. It was empty.

On the floor was a pile of some kind of dried moss, though it was unlike anything I had seen on earth. I decided I might as well be as comfortable as circumstances permitted and lay down upon this stuff.

Outside my cell, in the space ship, I could hear sounds of activity. There was the hum of powerful machinery and a slight throbbing through the floor. In a little while there was a violent rocking to and fro which soon settled into a steady swing, like that of a great ship at sea. Finally this passed away and I could feel no motion save the constant, slight tremor.

After what seemed like hours the door to the cell opened and two of the frog things peered in. I half rose, tempted to try to escape, but again, as I looked into their eyes that feeling of fright and helplessness seized me. One of them had what I took to b a weapon in its paw, or hand. It was a small, tubelike affair and as I moved he pointed it at me.

I subsided quietly and the other entered and dumped a quantity of a dry material into the trough out of a small sack he carried. A metal dish of water was placed on the floor near my head and the things withdrew. I heard the fastening click into place as the door closed.

I was thirsty and drank some of the water. Later I examined the stuff in the trough. I was not unlike dark colored, broken scraps of bread. Tentatively I nibbled at a small piece. I had a pleasant appetizing flavor and, deciding it could not be harmful, I discovered I was hungry and ate with relish.

SAVE for periodic visits to replenish the food and water I was left alone for a long time. I think it must have been at least twenty-four hours. At last, however, a change came. My door opened and half a dozen of the creatures entered. Two of them seized my legs and though I offered a brief, futile resistance they quickly hobbled my ankles so that I could step only about six inches at a stride. My hands were tied behind me and with pushes and proddings they signified I was to step out of my narrow prison. I was directed down several long corridors and

at last they roughly pushed me into another room.

This was a far different place from the cell I had just left. Great glass retorts and intricate machinery lined the walls. In the center there was a low table, less than two feet high. One of the things who appeared to be in charge signified that I was to lie down on this bench. Dreading unimaginable things I hobbled over and lay down.

AT a signal from the leader the things untied me and cut away my clothing. They stripped me completely naked and, for a few minutes, examined my body with evident interest. They punched my sides and legs and pinched my flesh. One pulled my mouth open with his cold paws and felt my teeth. They seemed particularly interested in my thumbs and, as they pawed and pulled them, they carried on a low guttural conversation in their own tongue.

The leader spoke and the others hopped back. He approached me and began an examination of my body that overlooked not an inch. I cannot describe the many instruments he used but one I recall was a sort of X-Ray with which he examined me inside as well as out.* He took blood samples and pried beneath my finger- and toenails. He prodded and thumped me and all the time he talked, in that croaking voice, with the others in the room.

Two of them wheeled up a complicated piece of machinery. A metal pad was clamped tightly at the base of my skull, just above the back of my neck. Another was fixed against my spine, below the shoulders and still another pressed against the extreme lower tip of my spine. There was a soft humming noise. A shock, like the sudden impinging of a mild charge of electricity, passed through my body and then everything went dark.

When I regained my senses the frog things had all left the room except one. When I moved he came close to the table where I lay. He spoke and, to my utter astonishment, I could understand. It was still that hoarse, croaking sound, but the word he used was unmistakably meant for "hello".

CHAPTER II.

An Explanation

IT was some little time before I answered the thing beside me, where I lay on that low table. Surprise and fear held me speechless.

"Don't move," it croaked, "drink this." He passed me a vessel containing a dark fluid and I felt a warm, revivifying glow spread over me as I drank.

At last I forced myself to speak.

"Who are you? Where am I? What does it all mean?" The questions tumbled, haltingly, from my lips.

"I am Soran," he croaked. "I am a scientist of Toree. You are on a space ship, being taken to our world."

"Where is Toree?" I asked.

"It is far distant from your world," he replied. "I do not know how you would name it."

I thought, slowly. My mind was confused and I could not realize the full import of my situation at first. Then a slow anger grew within me. What right had these animated horrors, these intelligent freaks, to treat me as they had without consulting me first? Why had they seized me, like some laboratory specimen, and hurried me away from everything I knew without so much as a "by your leave"? When I spoke again to the thing that stood regarding me with great, serious eyes, it was anger that prompted my words.

"Why have you done this thing to me?" I demanded. "Take me back to earth. You have no right to make me prisoner. I don't want to go to your Toree, as you call it."

I raved in like manner for several minutes and all the time that thing stood and gazed at me with his unblinking eyes. Gradually the futility of my outburst became apparent, even to my irate mind. That old sensation of helplessness and fear crept back and my voice sank to a whisper and finally stopped, altogether, in the middle of a sentence. Then, I think, I whimpered a little.

I knew, as I stared at the utterly unmoved creature, that I was irrevocably in the power of the things, held not only by my physical bonds and by my hopeless situation, but held even more helpless by the sense of mental servitude and inferiority that seized my very spirit whenever they were near.

"That sort of thing will do no good," the thing said, after I had ceased my tirade in a hopeless whimper. "We wanted you and we took you. It is not our fault you are unable to resist.

Again there was silence in the room for a minute or two. When I spoke again it was quietly with utter, hopeless resignation to my fate. I asked the thing how he was able to speak and to understand English. He told me that, through an invention of his people, he had read my mind, absorbed all the knowledge in my brain, by means of that strange instrument they had fastened to my head and spine. I found there was nothing I could tell him he did not already know. But there was much I wanted to ask and, patiently, he answered my questions.

His race—Imbos, they are called—are the dominant beings on Toree. They are, as evidenced by the strange instruments in the laboratory and by the space ship itself, far in advance of man in science and invention. They are evolved from amphibians, similar to the frogs of earth with which I had mentally compared them.

The space ship had made a voyage of exploration to several planets. I think it must have possessed the power of invisibility, for Soran said it had remained hidden throughout their stay on earth, though I gathered they had conducted quite extensive scientific investigations of our world.

He intimated that one of the chief objects of their interstellar voyage was to discover a rare metal which the Toreans value highly. They had found none of this metal on earth though they

*Undoubtedly a form of the fluoroscope—FCT.

had come across some small deposits on one of the other planets they had visited. Now they were returning to their home on Toree.

At length I asked a question that had been lurking in the back of my mind all through the conversation.

"Are there men, like me, on Toree?"

He hesitated before replying.

"Yes," he said, at last. "There are creatures like you on Toree. Though we don't call them men. They are Thuts."

He seemed reluctant to go on but under the urging of my curiosity he told me something of the condition of the humans, or thuts, on Toree.

They had not developed, mentally, in pace with the Imbos. Physically he described them as almost perfect, though he said they were somewhat smaller than men on earth. They were not intelligent beings at all, he told me, and were classed simply as animals. He said they were kept mostly, in a form of slavery to the Imbos, though he did not go into detail.

IT was only later I learned, by painful experience, how abject this slavery is and how animal-like are the lives of those poor humans of that distant world.

Strangely enough it never occurred to me while Soran talked that, on Toree, I would myself be considered nothing but an animal.

Then he began talking about the Imbos again. He described their society, their economic conditions. There was a strange similarity to that of civilized men on earth. He told me that most of the Imbos passed their lives in a keen, competitive struggle for wealth. Though they have advanced far beyond mankind in their science and the material comforts of their civilization, they are still burdened with a cumbersome economic system under which some gain great weath and other have little more than the bare necessities of life.

Power, he said, was in the hands of the wealthy and he seemed to consider this unfortunate.

"There is an Imbo," he said, "named Bokal, one of the richest of our race. It was he who arranged and financed this journey through space. He wanted to add to his wealth by discovering more of our precious metals. Also, I believe, to add to his fame among his fellows. Of course it was necessary that he employ many inventors and scientists to perfect the space ship and to solve the many problems involved in the undertaking.

"That is why I am here. There are others on the ship who are among the greatest of Torean inventors, engineers and scientific experts. But it is Bokal and his crude kind who really control the ship, its journey and all that we do. They have little consideration for science unless it can add to their wealth or can provide for their amusement."

"Is Bokal on the ship?" I asked.

"No," he said, "but we are all under his orders and must obey his officers." Again he paused then, looking queerly at me, he said:

"Bokal owns a great many Thuts. Some of them he keeps because they are fast runners. Races between Thuts are a popular amusement on Toree. Bokal thought that, on one of the other planets, there might be Thuts of sturdier or faster build than those of Toree. He ordered his officers, on this ship, to capture one of these stronger Thuts, if they saw any, and bring it to him. He hoped it would be faster than the Torean Thuts and thus win races for him. You happen to be the one kidnaped for that purpose."

When the full import of his words penetrated to my mind I turned a horrified gaze upon the calm Soran.

"But," I stammered, "I'm not a Thut. Not an animal. I'm an intelligent being, a man. They can't do this to me."

I could see no sympathy in the eyes of Sora.

"I think, as a scientist," he said, "you'd be worth more to us if Bokal would give you to me for study and experiment. But he won't, not at present, anyway. It's no use your struggling. You may be what you call a 'Man' on earth, but on Toree you're a Thut. Really, if you can run, Bokal and his keepers will treat you quite well. A fast Thut is a valuable piece of property."

Then he opened the door and a number of the other Imbos entered.

The last thing he said to me was, "I see, man, your earth name is Tom. I'll tell your new owners to call you 'Tomman'."

WHEN Soran turned away the other Imbos engaged in a long conversation. As they croaked their queer language I lay, in my utter nudity, nothing but a piece of animated flesh, as impersonal an object to them as any horse or steer to us.

At last they seemed to decide upon a course of action. They grasped my limbs and, with strong straps, fastened me to the table. Then one stood over me and, as fear clutched me and cold sweat stood out upon my face, I saw he held a thin, bright-bladed knife in one paw. While others held my right hand he quickly carved away my thumb. My cries of pain they ignored.

After the thumb was amputated they dipped the bleeding wound in some strange liquid. There was an intolerable stinging for a few minutes but when my hand was lifted out of the metal dish the bleeding had stopped and a coating of fresh skin appeared to have already covered the wound.

The way in which they ignored my cries any protests was as though they had not heard them. Later I decided that Imbo ears, usually, are not attuned to the tones of human voices. In all my life among them Soran was the only one who ever acted as though he heard me speak. Possibly he had used some artificial aid or perhaps he could read my thoughts independently of what my lips said. I realized, during my life as a Thut, the true meaning of that early expression, "dumb animal."

My left thumb was amputated like the right and then they forced a hole through my nose, through the fleshy span between the nostrils. They treated these wounds with more of the magical healing fluid and then left me alone. In about an hour they returned and examined my

hands and nose. The wounds were completely healed and from that day to this it has been as though I had never had thumbs and the hole between my nostrils had always been there.

They forced a thin metal rod through my nose and joined the ends, forming a circle of the polished, steel-like metal. A light strong chain was fastened to this nose ring. I was unstrapped from the table and, though my limbs trembled and I felt almost too weak to walk, I was led back through the corridors to my prison cell. When I hung back they brutally jerked the chain of the nose ring and I could do nothing but stumble along.

Then followed days of deadly monotony and mental anguish. I had nothing whatever to do save stand or lie in that restricted space, sleep as I could and spend my waking hours in fruitless thought. The chain from that hated ring passed through a small hole near the floor of my cell and was fastened outside. There was sufficient play to allow me to stand or lie down, but little more. I suppose I could have twisted the chain around my neck until I died.

But I lacked the courage to kill myself and, besides, I was possessed of an intense curiosity about the strange world to which I was being hurried. I knew I faced inevitably painful experiences but they were experiences such as earthly man had never dreamed of before. Had I known all I was to pass through I think I would have killed myself immediately.

A factor that partially accounts for my resignation to my strange fate was my physical condition. Though denied all exercise and kept under circumstances that would be expected to be fatal to a normal civilized man there was a steady improvement in my general health and physique. Always strong and athletic, I rapidly gained a high degree of physical perfection. For the first few days the Imbos, each time they brought my food, injected a liquid into my veins. Whatever this was, it gave me an intense desire for food. I had such hunger that I quickly forgot, each time I saw my trough replenished, the half-formed resolution to starve myself to death.

Daily one of the Imbos spent an hour or more massaging my legs and giving me other bodily treatments. He woul drub and knead and pinch the muscles and I could feed new strength growing in my thighs and calves. My arms he ignored, seeming quite unconcerned about them. He used, early in my life as an animal, a paste that, rubbed over my body, removed every vestige of hair, leaving the skin smooth and shining. Daily he polished me all over, using soft rags and an ointment with a rather pleasant, pungent odor. The hair of my head he treated with a heavy grease and, as it grew longer, worked it into a short plait that hung on the nape of my neck.

Whatever it was they fed me, injected into my veins and did to me in other ways, must have cleared my body of all earthly ills. As the days passed I felt a constantly increasing flow of glowing, throbbing health filling my body. The Imbos have far greater knowledge of health and food values and the physical being than we of earth. Despite my forced inactivity and, from earthly standards, unnatural mode of life, I enjoyed finer health, I believe, than any earthly man has ever known. I was physically approaching that state of perfection man has always sought but never attained.

Save for the feeding and massaging and other attentions— grooming is the proper word—I passed apparently endless days of frightful loneliness. The ghastly monotony of the life nearly drove me insane, but I forced my brain into a sort of dull apathy. I taught myself, in some degree at least, not to think. Only by this forced inactivity of mind could the endless days be made endurable.

I grew accustomed to my nudity. It was the natural thing, to the Imbos, for a Thut to be naked and I felt no more embarassment before them, though they wore clothes themselves, than I would before a dog or any other creature of different race. They regarded me as a dumb brute and, if this was my fate, a dumb brute I resolved to be.

So the long days pasesd. Regularly I was fed and watered and groomed. Regularly my cell —or stable—was cleaned out and fresh dry moss thrown in. In everything save size and form I was as a horse, the property of those who fed and kept me and, if they willed, could beat me or kill me.

CHAPTER III.

Thopus

BY the stopping of the machinery I knew when the space ship reached Toree. Shortly afterwards a group of strange Imbos entered my cell and, by the attitude of deference with which the others treated him, I guessed that one must be Bokal, my owner. He hopped to my side and felt my muscles. He punched my stomach and ran his paw high up inside my legs, clutching the sinews and rubbing the skin. I remember, in my early days as a Thut that always when an Imbo would feel my limbs and body I would be seized with nervous trembling but gradually I became used to the trick until I accepted it as a matter of course.

Then I was taken out of the cell, through the long corridors and through big doors into the open. As the bright sunlight struck my eyes, long accustomed to the gloom of the space ship, I turned around. An Imbo stood behind me with a short, pliant whip, or quirt, in its paw. For the first time I had felt the lash. As I turned he struck again, a succession of cutting, cruel blows and for a moment I tensed my muscles to fight. The Imbo holding the chain gave it a sharp jerk and the nose ring pulled my head around to the front. Smothering my anger under the realization that resistance could only bring more punishment, I stepped quietly outside with my fantastic masters.

I was led across a wide open space. Hundreds of Imbos gazed curiously as I passed. I was pushed into a closed, vanlike vehicle which immediately moved away at rapid speed. When the vehicle stopped and I was pulled out I saw

a long low building. As I was led across the threshold a strong odor assailed my nostrils. I did not recognise it at first but it was the smell of humans, or Thuts, kept as animals in a stable.

I was led into a stall, about eight feet square, my chain was fastened, food and water were placed before me and I was left alone.

I could hear movement all around me. I had seen that the building contained many stalls such as the one I occupied but I had been hurried in too quickly to notice their occupants. Now I heard the rattle of a chain in the stall to my left. The dividing wall was low, less than five feet, and I looked over. There, naked and chained liked myself, stood a woman, a female Thut.

The woman had her head turned away when I first saw her. She was smaller than I, not over five feet tall. Like me she was devoid of hair, save for the heavy short pigtail that grew from her head. She was slender and glorious in physical beauty. Her skin, bright and shining, was of a light, golden hue.

Her body and legs were exquisite in their smooth shapeliness and she stood or moved with a grace that earthly human have never known. This beauty of form and grace of movement is typical of the Thuts though I always thought Thopus, as I later learned was the name of my neighbor, more beautiful and more perfect in every way than any other I ever saw.

She turned and looked at me. So utterly unconscious of shame at her nakedness were the eyes that stared curiously into mine that I soon overcame my own tendency to look away and for a long minute or more we stared at each other. Her head was well shaped though there were minor peculiarities, compared to earthly standards, in her features. The eyes were large, of a soft, liquid brown and the nose stood out from the face giving it a sharp, pointed effect. Her mouth was large, with full lips and the chin was well formed. Her hair, which grew to a point just above and between the eyes, was drawn tightly back into its rear knot. In her nose was the inevitable ring with the chain attached.

She gazed at me with eyes devoid of expression, save for a mild curiosity. I remembered that Soran had said these Torean humans were nothing but animals. It was the look of a resigned, gentle beast that gazed from my lovely neighbor's eyes, yet deep in their depths I glimpsed a hint of intelligence.

A splendid animal she undoubtedly was. Her physique would have been the despair of any woman who ever walked the earth. Her grace never ceased to fill me with wonder. She couldn't step across her stall without creating a poem of motion. No earthly dancer ever displayed the beauty she showed in every move.

Later I saw Thuts that were gross and ungainly creatures but in the racing stables of Bokal all were magnificent speciments of physical perfection. No other, it is true, was so lovely as Thopus, in form, in glowing beauty of skin, or in grace of movement, but I truly believe the poorest among them surpassed in loveliness the Greek gods and goddesses of earthly myth.

THIS gorgeous creature into whose eyes I stared finally made sounds with her lips that were evidently the tones of speech. Of course I was unable to understand, but her voice was soft and low and musical. In the long days that followed I learned the language of the Thuts, with Thopus as my teacher.

Their tongue is simple and one word must serve to express many meanings.* But it is sufficient for the interchange of simple thoughts and I quickly learned to converse with Thopus and others. I grew to know her well during the months we lived in adjoining stalls. From her I learned nearly all I ever knew of the Thuts and their history and she was the one real friend I had during my life on Toree.

The days in the stable of Bokal were, insofar as food and grooming went, the same as on the space ship. There was one Imbo whose duty it was to care for me and he devoted many hours to polishing my skin and otherwise caring for my body. My food was varied sometimes and I always ate with relish and keen appetite.

In one thing, however, there was a change. The day after my arrival my keeper began a period of training, with daily exercise. There was a circular track outside the stable and each morning, held by a long chain in my nose ring. I was made to run around it until I almost dropped from weariness. I think the gravity of Toree, or the atmosphere or some other condition, made it easier for me to run than I ever could on earth. True, my physical condition was superb but that alone could not account for the ease with which my muscles responded and the remarkable speed I was able to achieve. Especially by comparison to the deliberate hops and movements of the Imbos, my running was astonishingly fast.

Each day the Imbo extended the length of my running period. When I hesitated and, seeking rest, would slow down, the sharp flick of his whip across my legs or back urged me on. At last, after weeks of this, I could circle that track, untiringly, for apparently indefinite periods.

Thopus told me the Thuts of Bokal were the most famous tracers on Toree. She could not understand when I tried to tell her of the world from which I came and its human beings. To her I was only another Thut, bigger and stronger than others and with a strangely colored skin such as she had never seen before. Most important, she expected me to be faster than any other. She herself, she told me, had won many races.

Her mother, she said, had been a famous racer before her. Of a father she knew nothing. Indeed, the idea of fatherhood seemed entirely strange to her.

Thopus said she had heard that, many generations before, all Thuts had been wild, free things. In fact, she said, free thuts were still to be found in the wilder parts of Toree. But she had never seen any and knew this only by hearsay.

*The Thut language, as nearly as we can understand from Tommas, is a combination of simple syllables and signs. In telling the story to us, he demonstrated some of his conversation with the Torean humans. Of course, in this story, it is translated into proper English. FCT.

One strange thing she told me was that all Torean humans, or Thuts, were born with only four fingers. When I told her of the thumbs the Imbos had cut from me she couldn't understand and, I believe, thought I had been deformed at birth. Perhaps the lack of thumbs, so essential to man in his use of weapons and tools, explains in part the failure of the human race on Toree to develop beyond the status of an animal.

One day, as I stood talking with Thopus, an Imbo entered her stall and placed a set of harness upon her. I had never seen this before and watched curiously. First he fastened two straps around her thighs. A simple arrangement was slipped over her shoulders, with a belt that buckled around her waist. The whole was held firmly in position by hooks to the thigh straps. Light reins, for guidance, were hooked to her nose ring and passed through other rings attached to the shoulder straps. Chains connected her wrists to the thigh straps, allowing freedom for her arms to swing but preventing her raising them above the waist.

THERE was a small leather loop on each side of the waistbelt and, as I watched, the Imbo quickly hopped to her shoulders and placed a foot in either loop, or stirrup. His thin, crooked legs half encircled her body and their grip helped to hold him in position. His great, fantastic head rose behind and above her's. In one paw he held the nose reins and in the other he carried the inevitable whip.

He turned her and, to my surprise, rode her into my stall. He hooked my nose chain to her harness and drove us both out to the running track. Then, with Thopus behind or beside me, the daily exercise began. Despite the weight of the Imbo on her back she ran strongly, steadily, fast and beautifully.

A day or two later a set of harness was fitted to me. I had sense enough to submit quietly an patiently and to allow the Imbo to hop into his place on my back. I felt a pull at the nose ring and, understanding, turned and walked out.

The added weight did not seem to offset the different in gravity pull between Earth and Toree. At first I found it hard to run at my best with that thing perched upon my back but I gradually grew accustomed to it and found the best posture in which to stand and to run. I also found it better to sink my own intelligence and allow myself to be started, stopped and guided solely by the pulls on the nose ring and the flicks of the whip.

Thopus always advised me, when my racing days began, to exert myself to the utmost to win. She said winners were more valuable to our Imbo owners and were given better treatment. "If you can't win," she said, "they'll send you away to the Oms or even to the Subers." A look of terror momentarily filled her eyes as she spoke but she wouldn't explain further, apparently finding the subject distasteful.

One morning a strange Imbo came to my stall. He was smaller than most of the others I had seen. I was harnessed and led outside. The stranger mounted to my back and I felt a cruel cut from the whip. I jumped forward and the nose ring savagely perked me back. Then he walked me to the track. Thopus and other Thuts were waiting and they ran us in a trial race.

I won but only after I had received the worst lashing with that cutting, relentless whip I had yet known. My rider knew no mercy. He seemed to think it necessary to use the whip to get the utmost out of my flying legs.

When the race was over I stood, laboring for breath, perspiration covering me and thin rivulets of blood trickling from my thighs and buttocks where the knotted whip had cut and torn the skin.

That night in the stable Thopus told me I had outrun the fastest of all Bokal's Thuts and that I would undoubtedly win many races. My keeper used lotions that miraculously healed my wounds and he gave me an extra amount of hot food that I ate while he massaged my tired muscles and polished my glistening skin anew.

CHAPTER IV.

A New Life

THE races were run in a huge building. There was an oval track about a quarter of a mile around. Vast tiers of seats lined the track on both sides for the Imbo spectators.

A few days before we raced we were taken to stables in the lower part of this building. On this journey I saw how great and advanced is the civilization of the Imbos. We walked for miles through a great city. Vehicles of all sorts darted along the roadways and overhead I saw many great flying machines. The buildings were of a sort of shining stone and the architecture, though unlike anything on earth, was of unusual beauty.

Once in our stables in the basement of the racing place, we were subjected to more grooming than ever. We were liberally fed and continually cleaned and polished. Many Imbos came to look at us and talk in that croaking tongue I never learned to understand.

Thopus again occupied the stall next to mine and my friendship for the girl grew daily. It was not the affection of man for a woman. Our life as mere animals made that impossible. But it was very real liking and, I believe, under happier conditions, I could have loved her. She was so beautiful, so gentle and kind in everything she said. I know she must be dead now, but I still dream of her and see her glorious form just as she used to stand beside me in that stable, completely unconscious of the perfect picture of female loveliness she made.

The sense of excitement that filled the tables as the day for the first races came inevitably affected all of us, Thuts as well as our masters and keepers the Imbos. I was scrupulously groomed for the ordeal. My harness was fitted with utmost care and, at last, the rider I had carried before hopped to his place behind my shoulders. His grotesque, froglike head rose above mine

and his long thin legs tightly gripped my body, below the armpits, as we were walked out in single file into the noise and glare of the great track.

Thopus did not run in that first race. There were ten of us, including myself. As they arranged us in line for the start I stared down the track and saw the thousands of Imbos who waited for their sport to begin.

Four of the nine Thuts who raced with me were women. Shorter than I and slender, their bodies showed perfect training and their muscular yet shapely legs promised great speed. Each racer carried a rider and each was harnessed as I. I was the only one with white skin. The others were either of that golden hue like Thopus or blue or purple in varying shade. I never saw a white Thut and the blue tints, with less frequent golden hues, were the commonest colors among them.

A remnant of shame at my nakedness swept over me as we stood there, fully exposed before that great crowd of weird onlookers and before each other. The feeling was only momentary and once again I realized I could be nothing but a dumb brute among my kind.

The race was four laps around the track. At the start I ran behind most of my companions and, at the speed they maintained, I feared I could not win. As the final lap began the thing perched on my back suddenly leaned forward, throwing its weight against my shoulders. The change in balance almost threw me off my stride for a moment, but forced me to lengthen and quicken my pace. At the same time my rider dropped the nose reins and threw his left arm across my shoulder, slapping vigorously at my breast with his paw, or hand.

In the right paw he held the whip and I felt it descend, in one stinging, cruel sweep, across the rear of my straining legs. From that point on he flailed as hard as he could with the cutting lash. Slowly I drew along side the leading Thut and, when the race ended, I was the winner by several yards.

One race was typical of all the others. I never ran more than once in a day. Each night my stable keeper, with that magic lotion, healed the wounds the whip had made. Nearly always I won though two or three times I came in second or third.

We must have been racing this way for about two weeks when, one day, they led Thopus and me out together. There were no others in this race and I think it was an important test between us. Thopus had been winning nearly all her races and I think she was the fastest of all the Thuts on Toree. It was the only time we raced against each other.

She was ahead of me as we neared the finish, when my rider began that terrific lashing and urging forward. Her rider was treating her the same way and I could see the whip descending upon her legs and hips and glimpsed the red weals where it fell and saw drops of blood spattering her thighs. I could have passed her but something made me hold back and, despite that dreadful punishment from my rider's whip, I allowed her to cross the finishing line first.

THAT night Thopus told me she knew I had purposely allowed her to win and she said I was foolish to do it.

"It makes no difference to me," she explained, "and the Imbos won't treat you as well if you don't win for them."

For what I imagine was about two years we lived without change in our circumstances. Racing periods came and went. Between times we were kept in our own stables, exercised sufficiently to retain our strength and speed and cared for with utmost watchfulness. With the companionship of Thopus, who always occupied the stall next to mine, the life was not so bad as might be thought. It was monotonous and hopeless but physically it was glorious because of the bounding health that pulsed through my being.

At the end of this time Thopus told me, one night, there was a rumor that Bokal planned to sell many of his Thuts. The enslaved humans, of course, knew nothing of their masters' affairs, but rumor was almost continuously rampant in the stables. This time it was believed that Bokal had lost much of his wealth and could not afford to keep us all.

The rumor proved true. Fully half of the stalls were empty after a day when many strange Imbos came to our stable. They carefully inspected us and debated long among themselves before each stall. When the day ended I remained still the property of Bokal but Thopus and many others had been led away to new ownership and new surroundings. I saw Thopus once again, for a little while, years afterwards.

Another year must have passed away before a change came in my life. I had raced many times since Thopus left and was still as fast and strong as ever. But I was lonely and sad without the girl beside me and I welcomed the prospect of anything new in my condition. It was the young male who occupied what had been Thopus' stall who first told me I had been sold.

"I think they are to take you to the Oms," he said. I remembered how Thopus had refused to describe this place to me and tried to find out from my neighbor what it was. But he wouldn't talk.

The following day a score of us were led from our stable. All were females except me. We were linked together by our nose chains and, as Imbos mounted on other Thuts wielded long lashed whips, we were driven away.

We walked for miles, leaving the city behind and passing down long rural pathways. Queer trees and vegetation covered the land which was enclosed and evidently in a state of cultivation. The road was hot and dusty and I suffered intensely from thirst.

At last we turned from the main road down a bypath. Enclosed fields on either side of us contained many of the Thuts, standing idly around or lying on the ground. There is no grass on Toree but the fields are covered with that mossy growth which, dried, was used for our bedding.

On it grew large fruity pods which I found, later, were good to eat.

The Thuts in the fields were all women, except for some young with their mothers. They were not so graceful as those I had seen in the racing stables though many of them could yet be called extremely beautiful. They were not so slender as the racers, their breasts were not so firm and round and their bodies were fleshier and softer. They had not received the same careful attention and their skins, though still hairless, had lost that bright, polished appearance. The plaits had been cut from the heads of many of them and the short uneven hair gave them a wild, unkempt look.

Finally we came to a group of buildings. I was led away alone to one of these while my women companions of the journey were driven through a gateway into a nearby field.

My new stable was not as clean as the others I had known. The moss had not been changed for many days and everything was soiled and dusty. There were a dozen stalls and in each was a male Thut. They were slow, lethargic men creatures, most of them, standing or lying dumbly in their places.

In the next stall to mine there was a heavy, gross Thut. Fat covered his body in thick layers and he spent most of his time lying apathetically upon the flooring. That night I spoke to him and, after a time, he condescended to answer some of my questions. I asked him what the place was and why I had been brought there.

"It is the Oms," he said. "The place where the new generations are produced. We keep the race going."

THEN he told me many things about the Oms. One of the queerest things he said, which I afterwards saw was quite true, was that the young of the Thuts complete their physical growth very rapidly. They reach their maturity in about one year of earth time. I imagine it is this fact, together with their lack of thumbs, that explains the failure of the human race on Toree to develop into intelligent beings. No race could advance mentally if its individuals had no period of youth in which to learn.

"What become of all the Thuts?" I asked "They can't keep so many for the races."

"Only the best and fleetest are kept for the races," he answered. "The others are sent to the Subers as soon as they are grown. Except those they keep for breeding purposes."

"What are the Subers," I asked again. He lowered his voice as he replied and I could barely understand his words.

"It is where we all go at the end. It is where the Imbos kill us."

I didn't understand, even then.

"Why should they raise so many, just to kill us?" I asked.

"Why," he said in surprise, "has no one ever told you? They kill us for our flesh, which they eat."

No earthly man can realize the sensation of sickening horror that filled my mind after this disclosure. Through days of terror and nights of sleepless despair I thought, wretchedly, of my fate. I racked my brain for a means of escape but no feasible plan suggested itself.

I think my years of complete subservience to the Imbos had sapped my will power. Perhaps also, those Imbos have stronger mentalities than we men of earth, just as their civilization is so much further advanced than ours. Whatever the reason, I could not summon the courage to attempt flight.

There were also, to further deter me from thoughts of escape, those terrible creatures kept by the Imbos to guard against the Thuts running away and to hunt them down in the rare event that they did. I don't think I have told of these before. They fill the roles that watchdogs and hunting hounds fill on earth.

They belong to the cat family, a little larger than common earthly cats and wth long sharp fangs and claws that ripped and tore when they were allowed, by their Imbo masters, to work their will upon some unfortunate Thut. There were many of them around the Oms.

I pictured these cats, hunting me. In my imagination I saw packs of them catching me, as I ran in terror, and pulling me down as their fierce teeth tore at my throat. I saw excited groups of Imbos, hot with the chase, exultantly urging their creatures on as I fled, hopelessly, as a chased deer or rabbit flees on earth.

I don't know how many years I spent in the breeding stables of the Oms. I lost track of time. I was well fed, though my stable was poorly kept. I grew accustomed to the filth, wallowing, unashamed, in my bed of dirty moss, and to my duty to perpetuate the race of Thuts for the Imbo racing stables.

Sometimes I was turned loose in a field, or moss pasture, where I stood and lay idly about, eating the fruity pods. I had almost forgotten how to think and I lived as nearly the dumb, apathetic brute my masters thought me as human man could. With lack of exercise my muscles softened and I became fat and flabby. I no longer even dreamed of escape.

CHAPTER V.

The House of Death

FOR several weeks I was left alone in my stable, apparently forgotten except when food and water were brought to me. I was not even taken to the fields. Greater quantities of food then I had been given before were placed before me. I ate it all and, as I lay and lolled in my little stall, I grew fatter. I might have guessed the fate that loomed so close but I had almost lost the capacity for the simplest of logical thinking.

Early one morning an Imbo led me from the stable into a large field where several hundred Thuts already waited. They were almost all young things, barely grown, though all were heavy with fat. Considering their rate of growth they could not have averaged much more than a year in age. I had found it is only the older Thuts who learn even the simple words of their

own language. These young things could make only meaningless, animal sounds.

Soon after I had entered the field I saw a dozen large vehicles ranged along a roadway near us. One of these backed up to an opening in our fence. It was really nothing but a huge cage on wheels. An opening in the rear was let down and, with long lashed whips a dozen Imbos drove Thuts inside until the cage was packed tight with their young bodies. Then the entrance was closed and fastened and the vehicle moved away while another, empty, took its place.

I hung back until the last of these wheeled cages was filling. Then the Imbos drove me in among the Thuts with pitiless blows. Inside we were packed so tightly we could not lie down. We stood there, hot sweating bodies pressed together, like so many chickens in a coop.

The vehicles drove rapidly down many roads for several hours. It was agony to stand in that press of naked bodies, throats parched and dry, thrown this way and that as our conveyance swayed from side to side. Nearly all of us were cut by the whips or bruised by contact with each other or the bars of our cage. Half a dozen of the Thuts broke their legs during the journey.

At last, at one side of the road down which we sped, a large, factory-like building appeared. Our drivers turned in and swung around one end.

There was an open doorway. Our vehicle stopped here for some time, waiting for those ahead to unload and, from where I stood, I saw a frightful thing. On a sort of loading platform was piled a heap of wet, glistening objects. I did not recognize what they were for a moment but I turned cold with dread as my staring eyes identified them.

They were the stiff, dismembered bodies of dead men and women, or Thuts. Headless and legless, they were stacked there like the carcasses of hogs or cattle, waiting for conveyances to take them away.

I think I fainted. The truck, or van, backed up to a door in a high wall and we were released from our prison into a great yard. It was a rectangle, with the building on one side and stone walls dorming the other three. It was crowded with Thuts, helpless human creatures.

I had not long to wait for the next act in our tragedy. A door in the building opened. Staring through it I saw a place so horrible I cannot describe the utter fear and horror that seized me. It was the slaughter house, the shambles where I was doomed, so soon, to die that Imbos might eat of my poor flesh.

A group of Imbos descended inot the yard among us. None of the Thuts resisted them, seeming to accept their approaching fate as inevitable. The only sounds that came from their human lips were sudden cries of fear and pain as the Imbos roughly prepared them for the slaughter.

Each Thut was thrown to the ground and its ankles tied together with short strong cords. The wrists were likewise tied, the wrist cords passing between the legs, high up in the crotch. I don't believe this hobbling of legs and arms is to prevent possible resistance, but is merely for the convenience of the Imbo butchers.

I struggled, briefly and ineffectually, when my turn came but soon found myself lying tied with all the others. I was at one side of the yard, having been among the last to enter that anteroom of death and my back pressed against the closed door through which we had entered. From where I lay I could see inside the building and, as I watched, I witnessed the killing of nearly all my companions.

As soon as we were tied, lying helpless in that dirty yard, so close together that in some places the poor thuts were piled two deep upon each other, I saw a sort of conveyor come out of the doorway. It ran along a rail which extended for some distance over the yard. From it hung a hooked chain. Quickly the Imbos placed one of these hooks through the cords that bound a thut's feet together. The chain shortened and the hapless thut was lifted, feet first, into the air.

IT was a young female girl, that first one. One sharp cry, like a smothered woman, broke from her lips as she hung, head down, swaying above us. The carrier quickly swung her into the doorway.

There, as I watched, sick yet unable to turn my horror fascinated gaze away, a stream of water played briefly over her body, washing away the dirt of the yard. This took only an instant and then I saw the quick, ruthless last act of a human life on Toree. An Imbo hopped to the side of the hanging girl. In one paw he grasped her throat and, with a thin keen blade he severed her jugular vein with one deft stroke.

As he struck she screamed, horribly, her voice dying away in a gurgling, choking sob. The blood spurted from the wound and the dangling body was conveyed away into the dark, mysterious recesses of the building even as another victim swung under the hose and faced the dripping blade of the butcher's weapon.

In the yard Imbos, with hooked poles, dragged the helpless thuts into convenient position for the dangling hooks. One by one they were swung up, carried into that dread doorway and killed. There were only a few of us left, perhaps two score, and one of the Imbos was coming to drag me under the hooked conveyer, when suddenly the work stopped. I don't know whether their workday had reached its end or whether they had killed all they required for the time. The empty conveyors ran inside, the door of death closed and we were left, still bound and helpless, alone.

No food or water was brought to us and we lay in the sodden dirt of the yard, so many lumps of breathing flesh, to wait through the night for the simple transition into lifeless meat.

The cords hurt my wrists and ankles and seeking relief for my cramped limbs I worked at my bonds. They were carelessly tied and it was not difficult to free my hands. Then, clumsily because of my lack of thumbs, I slipped the cords from around my ankles.

Even then I had no idea of escape. I was hopelessly resigned to my fate and sought only

the temporary easing of my tortured limbs. I only hoped that death by the butcher's knife would not be too painful and that would be mercifully quick. What they did with my body, how many Imbos it fed, I didn't care.

It was accident that freed me from that prison yard. As I told, I was lying with my back to the outer door, or gate, which must have been insecurely fastened. As I moved I felt it give behind me. I pushed my back against it and it gave a little more. A sudden hard heave and the fastening gave way, the door swung open and I fell a foot or more to the ground outside.

Frightened, I lay motionless for some time. The night was dark and I heard no unusual sound. At last, nervous and tense, I stood up and stared around me. Before me stretched the roadway and at its end, where it turned into the main road, I could see a growth of tall, strange Torean vegetation. Silently I ran down the road and into the shade of the great plants.

All through the night I struggled to put as great a distance as possible between me and that awful place of death. Through dense vegetation and across open, cultivated fields, I stumbled and ran. I avoided all places showing signs of habitation, seeking only to hide myself from the Imbos.

Just as dawn was breaking I came to a stream of considerable width. I found a hollow place beneath the bank end and, with the water lapping at my feet, crawled under. I lay hidden there all day.

The next night I stopped the pangs of hunger by eating from a field of podded moss and then, refreshed, waded and swam across that stream and pushed still further across the country. I was leaving the more thickly populated places and getting into a strange, wild land. There were no trees like those of earth, but tall, fronded growths rose thickly in many places. Huge, bright-colored flowers, three and four feet across, swayed in the wind and heavy sweet odors filled my nostrils.

I think it was the fifth day after my escape when I met the wild thuts. There were about twenty of them, eight or ten women, one man and the rest young children. I came upon them in an open place in the forest as they fed on the strange fruits with which the place abounded. A little pool of water glittered in the sun and they stood and lay upon the mossy bank beside it.

They crowded curiously around me as I approached and one of them hesitantly stretched out its four-fingered hand and touched my nose ring. I caught enough words as they chattered together to know they recognized me as an escaped captive, or domesticated thut. That night I stayed with them.

THEY were, in most respects, like the captive Thuts among whom I had lived, wilder, more unkempt, and marked with the independence of all free things. The male told me there were many of them, in similar groups, scattered through the forests. He also told me that, sometimes, the Imbos penetrated to their territory and hunted them with the cat animals.

Early the next morning the man thut told me I could not stay with them. It was the law of the group that it could contain only one adult male. If I wished to fight him for leadership of the group and possession of the women he was quite ready for battle, to the death. I desired none of his woman and I did not want to fight. I turned away from them, back into the forest. As I looked back I saw an unmistakable glance of scorn in the eyes of several of the women.

I must have lived for weeks alone in the forest. I subsisted on the wild fruits and drank from the countless streams and pools of clear cool water. Each night I slept wherever I found myself and I was never molested. As far as I could discover, there are no dangerous animals, venomous reptiles or insects upon Toree. I saw several groups of the wild thuts at a distance, but always kept away from them. The hard open life removed the fat from my body and I regained a large part of that physical wellbeing and bodily strength I had known in my days as a racing thut.

One day, late in the afternoon, I heard sounds of hurrying things in the forest near me. A group of thuts, running desperately, dashed across the little glade in which I stood. I knew not from what they were running but they were evidently frantic with fear. I ran after them.

Behind me I could hear sounds of pursuit. After a long time, as my labored lungs felt at the point of bursting and my legs seemed unable to sustain me any longer, I came to a wide river. I plunged in and hid in a patch of water vegetation, only my head above water and it well hidden behind the fronded leaves. As I peeped at the river bank, a few feet away, I saw a young male thut racing along the water edge. Behind him sped three of those cat animals and, further behind, two Imbos rode into view mounted on tame thuts.

Just as the fleeing man, terror staring from his eyes, came opposite my hiding place, one of the cats leaped to his shoulders. The man screamed and attempted to knock the thing away with his hands. But it clung there and, twisting its head quickly round his neck, ripped with long sharp fangs at his throat. He stumbled and fell, in a quivering heap, not ten feet from where I stood hidden in the water. The other cats leaped on him and for a minute their furry bodies half covered the writhing, twisting mass of human body, arms and legs.

Then the Imbos rode up and drove their cats away with guttural cries of command. The wretched man's throat was torn to shreds and his head and shoulders were a mass of bleeding wounds where teeth and claws had ripped and slashed.

The Imbos stood beside the body for a while. Then they tied ropes to the poor dead carcass and fastened them to their riding thuts. A throaty command and a slash from the whip and the straining man things slowly dragged the body

of their dead fellow away through the undergrowth.

I STAYED in the water for a long time. Long ter it had turned dark I crept out. Dreading the Imbo hunters who might, I thought, still be in the neighborhood, I decided to try and cross the wide river before me. I struck out from the shore and slowly swam into the unknown depths.

After a long while I saw the outline of the further shore before me, my feet touched bottom and I dragged my weary body up the bank. I rested and then, as dawn was breaking, cautiously walked away from the river, seeking some place to hide.

I had not gone far before I realized I was close to Imbo habitations. I crept along the edges of cultivated fields and passed many Imbo homes. No one saw me and I pushed on, hardly caring what became of me, yet seeking some hiding place in which to pass the daylight hours.

I came at length to a large open space and paused in the edge of the vegetation. Then, in the center of this space, perhaps two hundred feet from where I stood, I saw something that made me rub my eyes in astonishment.

As I gazed upon the vast bulk I recognized the huge machine for what it was, a space ship such as the one which had brought me from earth so long ago. There were no Imbos in sight and I ran across the intervening space. I didn't realize quite what I was doing. It was just an accident, instinct, or perhaps Providence, that led my feet inside and down the long corridors.

I was not familiar with the interior arrangement of the ship, even if it was the same on which I had travelled from earth, a thing of which I was by no means sure. Yet something guided my feet straight to a little room, a cell or stall similar to that in which I had first been forced from civilized manhood into the condition and status of an animal. The door was open and I stepped inside and pulled it to behind me. I fell to the hard metal floor and, in a few minutes, sleep answered the demands of my worn and weary body.

* * * *

The space ship was in motion when I awoke. Several Imbos stood in my room, staring at me where I lay. I imagine their expressions denoted astonishment according to Imbo ideas. None molested me and they quickly withdrew, shutting and fastening the door as they left.

It was about an hour later when one of the Imbos returned. He touched my head gently and made signs that he meant me no harm. Then I recognized him. It was Soran the scientist who had first told me about Toree after he had read my mind, and learned my English tongue, with the brain-reader. For the second time I heard him try, in halting croaklike tones, to form the sounds of my own language. I discovered that the words, after all my years of slavery, were strange to me, too, and if Soran found it hard to talk I found it equally difficult to make my brain understand.

He told me that when his companions first found me on their ship they thought some friend had sent them an additional supply of fresh meat for their larder. They were on another expedition to the distant planets, he said, but this time their objects were purely scientific. They had been able to finance their journey without appealing to Bokal or his kind.

Then, he said, he had recognized me as that thut of earth he had seen captured on the earlier voyage, years before.

"We could not guess how you got on our ship," he said, "but I told them you were Tomman, the man of earth. We all decided that your presence here was a good omen for the success of our venture. We felt that it would augur success if we treated you as kindly and as well as possible.

"We have decided to take you with us, to feed you and care for you to the best of our ability. We had not planned to visit your earth again yet it will not be far out of our planned route. We will swing to your planet and stop long enough to set you down upon its surface."

That is all my story. On the space ship I was still stabled and fed and cared for as an animal. But it was the finest imaginable treatment a stabled creature could have. I had unlimited supplies of the best of foods, clean soft moss fresh each day and gentle, careful grooming.

One night I was led from my stall and placed on board that small auxiliary air vessel in which I had first been kidnapped. We dropped from the space ship to earth. I was pushed through the door onto that great plain where the earth man found me the following day. I saw the Imbo airship leap upward and disappear in the dark skies. I hope no earthly man may ever see it again.

THE END

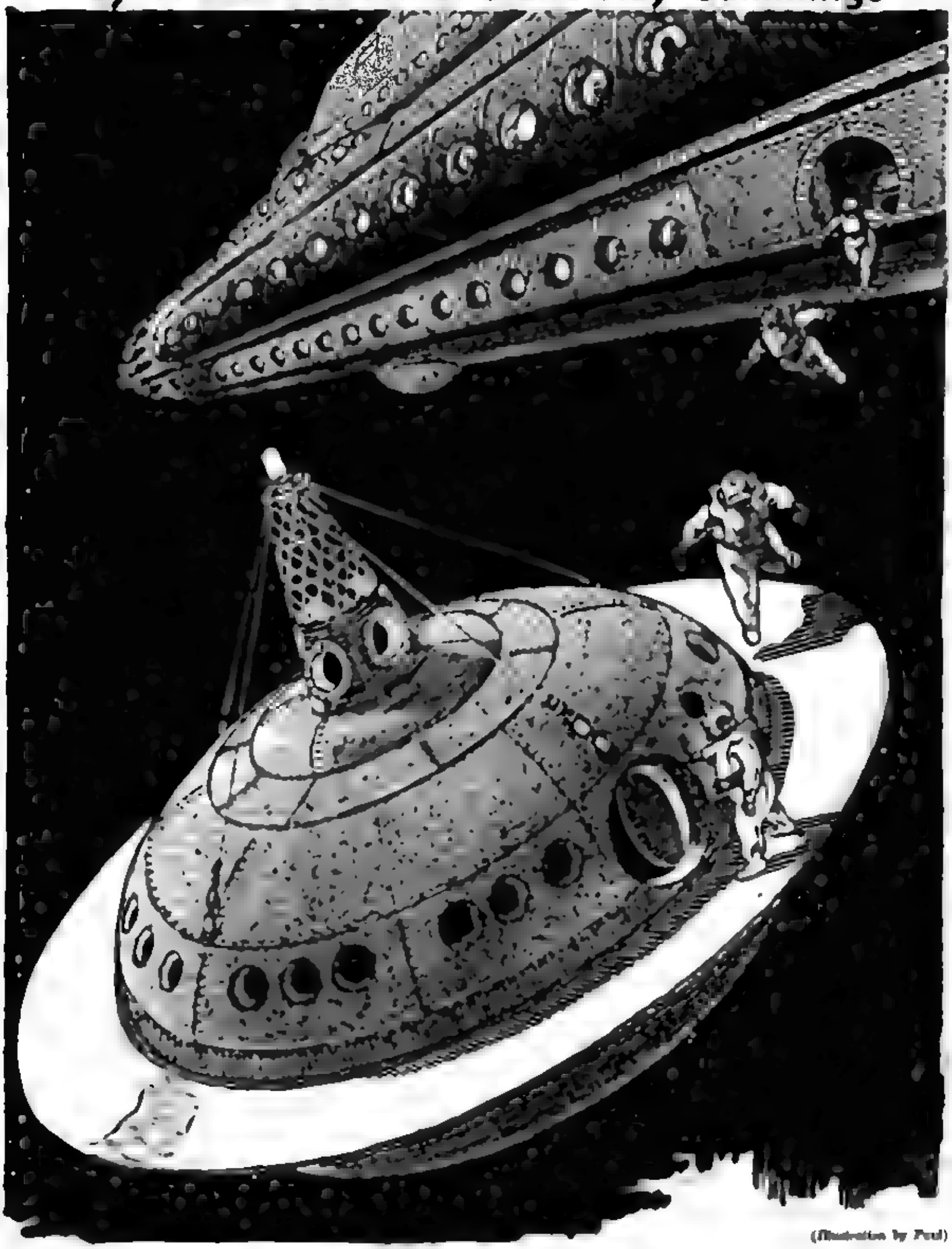
—READERS—

Turn to Pages 5 and 134

for Announcements of Importance

The Derelict of Space

by William Thurmond and Ray Cummings



(Illustration by Paul)

There were four of us who went aboard the Ship of Doom. Across the void we leaped, landing gently . . . .

The Derelict of Space

Based upon the $50.00 First Prize winning plot of the Interplanetary Plot Contest won by William Thurmond, 106 E. Godwin Street, Victoria, Texas.

I FIRST saw the ship from our forward turret window. It had been observed, electrotelescopically, for an hour past but I had no opportunity to see it. Then to the naked eye it became visible—a tiny black dot at first, so small amid the blazing gems strewn on the great concave velvet of the firmament, that one might blink and wonder if it were a vision. Then it was a blob of formless shape, faintly illumined on one side by the dim light from distant suns.

The interior of our vessel clanged with the signals to stop our flight. The heavens swung in a great pendulum arc; and presently we were hovering, and the Ship of Doom—as always in my mind I shall term it—lay close before us.

I recall now with what strangely awed emotion I gazed through the glassite bullseye of that turret window. Around me was the torrent of excited questions of my companions; the clang of bells; the tramp of feet. But I scarcely heard it as I stared at this derelict we had come upon so suddenly, lying so silent and alone in the trackless infinitude of interstellar space. Millions upon millions of miles of nothingness were here. Behind us the sun of our solar system was a mere point of light, so far distant that most of its planets were lost in the stars, with only Apollo, that tenth and last outpost, near enough now to cast a faint reflected light upon us.

And here in this eternity of emptiness where we had thought ourselves the first of humans ever to penetrate, lay the derelict Ship of Doom. It hung now no more than a mile away. It seemed, from this viewpoint, to resemble an old-time space-ship of the sort which once attempted the Moon journey and failed to do more than rise out of the Earth's atmosphere.

Yet, when soon we were approaching still closer, I saw that this could be no space-ship at all. It showed itself to be in form like a ball, flattened well down at its poles so that it had the aspect of a disc. I could not tell at first how large it might be. But Rance was steadily maneuvering us closer to it.

I saw at last that it was a coppery metal disc perhaps a hundred feet in diameter, with bulging convex bottom and top to give an interior height of some thirty feet. A deck encircled its outer rim—a narrow deck of what might have been glassite panes and with a row of bullseye windows. And in the center, upon the top of the disc a curiously bulging little conning tower was bravely set.

As we drew forward I saw that the tower was a woven mesh of wire strands. The disc seemed slowly rotating upon a polar axis so that all its deck windows passed our line of vision in a silent review. And between two of the bullseyes there was a small door-porte.

Rance called at me:

"Good Lord, Allerton, see that door! It's partly open! There's no air in the damned thing!

WILLIAM THURMOND
who furnished the plot

RAY CUMMINGS
who wrote the story

THE novel and extraordinary plot-winner of the first prize in the Interplanetary Plot Contest that underlies this story gives us a new pride in our readers. It justifies our belief that they not only know what they want, but they can on occasions demonstrate it by constructing an original science fiction theme.

We asked Mr. Cummings to write a story based upon it. When the story was concluded he told the editors that in his opinion it was his best work. And we believe it.

The story opens anew some of the fascinating possibilities of time traveling. We know that traveling in time may be theoretically possible. There are many advantages to be gained, unique experiences to be had. But what are the more remote but potent dangers of this expedition into the unknown? What are some of the great cosmic forces that we are not aware of, but that are likely to step into the play and wreck the entire expedition? Some of these questions, this story answers.

To Mr. Thurmond, for furnishing the plot, and Mr. Cummings for writing the story, we offer our thanks—jointly they have done a marvelous job. They have helped to make the Interplanetary Plot Contest a tremendous success.

No one can be on it alive!'

I did not answer. Was anyone, dead or alive, within this strange little derelict? It seemed not. No face was at any of the bullseyes. And what was this little thing doing out here? It was not a space-ship. Even with my limited technical knowledge, I could not fail now to see that there was no visible means by which this strange affair could navigate space. Then how came it here? What human had devised it? And how had he brought it here? And where was he, with his little mechanism poised here in the vast eternal silences?

Or perhaps the thing had not come from Earth at all? Realization of my own fatuousness rushed upon me. To each human mind himself is the pivot of the Universe. Why should I so childishly assume that this little thing had come from our tiny Earth when so many other worlds were closer?

Yet it had come from Earth. As though to answer the flood of my unspoken questions, a hand gripped my shoulder. It was old man Dorrance, father of our present commander. At seventy now, for all his white hair and the weight of his years there was not a man among us more capable of coping with the unknown. It was he who had brought us out here—he who seemingly would never turn back if a mystery lay ahead.

HIS hand gripped me. His voice brought me out of my thoughts.

"That thing, I know what it is! I remember it, forty odd years ago, lad—that was before your time! So this was its end . . ."

And as he told me, I too recalled it by hearsay. Years ago, to an incredulous world, a scientist named Ronald Deely announced that he had found the secret of time-traveling. He had procured funds and built his little vehicle—this same disc-like vehicle which now lay so strangely inert before us. Old Dorrance poured out the tale to me now. There was Deely and his wife Hilda—and the commander was one Gerald Vane. With three other men, these dabblers into the unknown had one day entered their burnished disc for a time-flight fifty years into the future.

Ten thousand people—so old Dorrance said, and he had been one of them—had breathlessly stood and watched this disc depart. The current went into it. The thing hummed. The solid, burnished coppery shape grew tenuous. An instant and it was a wraith—the shimmering ghost of a disc. Imponderable, intangible—yet for a brief instant, visible. Then it was gone, speeding forward into time.

Yet, as Dorrance told me now, that time-traveling disc was not equipped to move in space. The concrete platform where it rested, to the eye of the beholder seemed empty when it departed. For that *time* it *was* empty. The disc presumably had gone fifty years ahead—yet it should have remained upon its platform, so that in fifty years the platform would again have caught up with it and possessed it.

Then why was the disc hanging out here now in space billions of miles from the Earth? What trick had nature played upon these brash scientists who had dared to pry into her secrets?

A group of our men were around me and old Dorrance. Young Dorrance was saying:

"No air in it! Did you see that door-porte? Partly open—I can make contact there. We'll board it—"

Somebody else exclaimed: "So it's the Deely time-ship? Out here—by God, forty years ago—"

"And if any of you men want to go aboard it with me, get into your pressure suits. We'll see what's there—no one alive, of course—this weird thing—" Young Dorrance's voice faded as he dashed from our turret.

"Wait!" said old Dorrance, "but I know why it's here. These young scientists—scatter-brained, always rushing to do something—let them get our suits ready."

I paused while he told me his theory, meanwhile Rance's brother was assembling our pressure suits. This strange thing—yet so simple—

The Deely time-ship had gone fifty years into the future. But Ronald Deely, coping thus with nature, had failed to make adjustments of time, with space. His little ship, once in the stream of time, plunging forward, became wholly disconnected from the Earth. And the Earth is not at rest in space, but swiftly moving. How fast, with absolute motion, who can say? It follows our Sun, which in turn is drifting—and all the stars, all the Universe plunges—somewhere.

Deely had either overlooked this, or had been unable to make the necessary adjustments. His ship was whirled away into the infinity of interstellar space, fifty years ahead of the motion of our solar system—to wait fifty years for the arrival of our little planet to make a space and time contact.

I listened, amazed, as old man Dorrance explained it. Something undoubtedly had gone wrong with Deely's time-mechanism. He had reached his fifty-year goal, but could not, or at least did not, return. And here was his ship, with forty odd of those fifty years now past, waiting out its predestined meeting with Earth.

Awesome idea! Yet who could doubt its rationality? This then was where the Earth would be in some ten years more. I stared at the Ship of Doom with a new amazement. It seemed very slowly rotating on its vertical exis. But was it? Was that not perhaps a mere visual illusion. Perhaps all the great firmament with me in it was endowed with that slow spin. Our turret instruments, trained now upon the little derelict and measuring its angles with the far-distant sun of the solar system showed that the derelict had a perceptible drift in that direction.

Thoughts are swift-flying things. They thronged me. Deely's ship, lying here, was drifting toward our Earth. But of course! Why not? The proximity of the solar system—its total mass—was slowly, very slowly drawing the derelict toward it. That was understandable. That was reconcilable with the known laws of celestial mechanics.

CHAPTER II.

The Derelict

BUT was it? Was this derelict drifting back home—or was the Earth merely approaching their predestined meeting place. As I envisaged this commingling of time and space, it seemed to me that here might be the secret of Gravity itself. And as I stared at the Ship of Doom I saw in it suddenly *absolute rest*. In all this great starry Universe, was this little time-ship which had tampered with nature, the only thing unmoving? I think so. Poised here for its fifty years, *unmoving*—like a pivot around which flowed the ceaseless changes of the cosmos.

"Perhaps that is so," old man Dorrance was saying. "So many things we think we know and find we know nothing . . . Yes, you young friend, I want my pressure suit! Do you think the old man is likely to sit here doing nothing?"

There were four of us who went aboard the Ship of Doom. Our space-flyer came up to it very slowly. The silence and the motionlessness hung like a spell upon it. No faces at its little windows. Nothing moving on its little deck; no sign of life in its little turret. We could sense that death was here.

The four of us went across the void. We leaped from our ship, spinning emptiness landing gently on the Ship of Doom.

"Got it!" exulted young Dorrance. "Put on your helmets . . . You, Jake, watch the valves—don't exhaust the lock too fast."

I fastened down my goggling metal helmet to the heavy collar, and started the mechanism of the suit. The fabric bloated. Upon my shoulders the small oxygen tanks and the sponge-like absorbers of the carbon-dioxide sat like a hunchback's lump.

Through the visor pane my companions showed as gaping monsters from some strange planet, shapeless, puffed human forms . . . Old Dorrance touched a metal finger against the metal contact plate of my arm. My audiphone tinkled and I heard his voice in my ear.

"Be sure you maintain a fairly even pressure, lad. Keep it at about fifteen pounds."

I could see his eyes staring at me through his visor.

"Right," I said. "Don't worry—I've done this before."

We crowded into the small pressure chamber and the inner door slid closed. The valves opened. The air in the lock slowly rushed out into space and then at last we slid aside the outer panel.

Young Dorrance was first to step the small yawning gap between the two ships. His bloated gloved hand seized the partly open door and drew it aside. We crowded forward with the dim starlit little deck of the Ship of Doom curving before us.

What would we see? Wreckage? Carnage? There was nothing. A few small metal chairs stood neatly in a row. The curving deck was four feet wide and twice as high. A nearby inner door to the circular interior was closed. Nothing here.

But as I turned from this instant glance, I saw slumped here on the deck, a human form. A man, hunched forward with his arms wrapped around his updrawn knees.

"Dead!" said the voice of old Dorrance in my ear. "Dead, of course, these many years. No air—body marvelously preserved. Look at him—I remember him. Brown, the mechanic. Odd sort of fellow—I had a talk with him once."

He sat here by the opened outer door, as though he were on guard. Or perhaps watching the rush of air as it went out. His attitude seemed so calm, so resigned. Philosophical. The word hit me. This fellow here in his work-stained garments—philosophically watching death stalk upon him. . . .

The body fell forward to the deck as my companions pulled at it like prowling ghouls. He was a man about thirty. A rough-hewn, good-natured looking face, now puffed up . . . . bulging blue eyes.

But there were others on this Ship of Doom not so smiling. . . .

The central portion of the circular disc was divided into two horizontal floors, and into several rooms on each. It was a dark and silent interior of woven metal grid-work and metal furnishings. Our small torch-lights flashed their tiny white beams around it.

The rooms were segments of a circle like a pie cut into quarters. Four on the lower tier; a little circular stairway leading upward to four other chambers, and a circular ladder into the upper tower. On the lower tier were the mechanism and control rooms; a storeroom of food; and a sort of general lounge. The sleeping rooms were upstairs; and in the tower were the observation instruments.

I gave little thought to these details. It was the dead which fascinated me. . . .

The inner connecting doors were all tightly closed as though these doomed travelers had realized their danger and sealed themselves in to hold the precious air as long as possible. . . . And we saw them now as they had chosen to be when death came upon them. . . .

HE chanced to enter first the room where the food was stored. . . . Here was evidence of strife! Death had not been faced with utter calmness by them all. The storeroom was wrecked as though by some desperate struggle. And on the floor lay another man's body. How different from the calmness of Brown the mechanic. This man lay contorted. And under our lights his head and face showed gruesome where some heavy instrument had smashed it with a murderous blow.

Murdered, this one—a struggle here, over the food doubtless.

Four other human bodies were on the ship—all of them were in the lounge room. . . .

Upon a chair, with a small table before him, a young man sat slumped over a note-book and pencil as though he had been assiduously writing, almost at the last. A handsome young fellow, with sensitive features. The face of a dreamer. Staring dark eyes, which one could fancy looked at life always with amused wonderment. Above the almost girlish face there was a shock of waving black hair.

I gazed at the note-book in which he had been writing; its cover was inscribed:

"The Chronicle of Philip Thomasson."

Old Dorrance touched me. "He had more money than was good for him. Prominent social family. Only thing he ever did in life was finance Deely. And this Hilda Deely was mad with passion—but not for her husband. Everybody knew it—except the husband. That's Hilda Deely over there—look at her!"

Strange contrasts! Thomasson sat so calmly. But across the lounge there lay the body of a man who had not had the courage to die. His hands were tearing at his throat; an agony of terror was on his face; his thick tongue protruded. One could fancy that he had met his end screaming. . . .

There were two others—a man and a woman. The woman was young and slim and very beautiful, with a mouth that seemed made for love, and eyes which even now in death seemed to hold love like a torch to burn eternally.

This was Hilda Deely. She lay on a couch wrapped in a man's arms, with the long tresses of her black hair falling disheveled to envelope them both, and his arms protectingly holding her. Together, never to be separated, death had come to these two. And upon both of them, with the prospect of death, it seemed that there must have come a strange tranquility of spirit. . . .

But what had happened on this doomed little vessel? What tragic scenes had been enacted of which we now were seeing the mere final tableau? What turgid, philosophical and exalted human emotions must have swept this half dozen humans in those last moments of their lives?

I can try to picture it. There is what we saw on the ship to guide me. And Thomasson's "Chronicle", which with an ironical determination he seemed to have penned in detail until almost at the last. . . . And there is my own fancy, weaving it together; impressionistically perhaps, and with lapses—but weaving it nevertheless until I think that after all it may be a fairly true picture. . . .

CHAPTER III.

First Moments

THE moment of departure was at hand. In the lower mechanism room of the Deely time-vehicle, Brown the mechanic sat at his controls. Outside his glassite window he could see the awed and excited crowd which had assembled to witness the departure. But Brown wasn't interested in the crowd. That sort of thing meant nothing to him. This was a job he had to do. The risk, the danger—he was getting paid extra for that; he wanted no applause; there was no reason, he felt, that anyone should applaud him. Besides, waving flags and shouting and throwing hats in the air was childish.

Brown with his stocky figure encased in a greasy worksuit, stood at his window for a moment, puffing at his pipe. The throng was cheering, gazing up to the tower of the time-vehicle. Brown knew that Professor Deely and his wife were up there, with Gerald Vane, commander of this time-flight. Brown, though he could not see them, knew that they were smiling and bowing to the multitude. He grinned ironically to himself. Deely was a fatuous ass to bring his wife in this close contact with a man like Gerald Vane. . . .

Brown shrugged and turned away. It was no concern of his. For all of him, the woman could stand up there clutching roses to her breast, bowing and smiling, looking like the soul of purity—and yet have in her heart and mind nothing but duplicity. To Brown—who was a bachelor—it was of no importance.

And at that moment Hilda Deely and her husband were indeed in the tower, answering the plaudite of the crowd.

"Hilda, dear, isn't it wonderful." Deely's arm went around his wife. He was a frail, studious looking man of forty. His shock of prematurely grey hair made him seem older. His face always bore the look of a man far away in spirit. He was an unworldly fellow, this Deely. He passed by the evil in the world without seeing it, for his gaze was always fixed on the stars.

His mind, learned, erudite, profound, was in worldly things that of an innocent child. He sought for so many long hours each day to delve into the mysteries of Nature that the beauty of his young wife and her love for him became things he took for granted. Her inner life, her desires—the myriad illusions upon which a woman builds romance—all those were mysteries of Nature to which Deely never gave a thought.

"Isn't it wonderful, Hilda?" he repeated. "Listen to them cheering us." He tightened his arms around his wife's shoulders. "This is the happiest moment of my life."

He did not notice that she involuntarily drew away from his encircling arm. Gerald Vane stood close behind them, darkly handsome, of flashing dark eyes, bold features and strong cleft chin, and with his broad athletic shoulders so trim now in the uniform with gold braid. Whatever his inner character, outwardly Gerald Vane was the sort of man upon which a woman may build her dreams.

And the earnest, tremblingly happy Ronald Deely did not notice that his wife's free hand went behind her so that in this moment while the crowd applauded, Vane gripped her hand and briefly held it with a tender pressure while between them passed unspoken a reassurance of their love.

"Well," said Vane, "We're getting the publicity, Deely. Every newscaster in the world is blaring of this. Shall we make another speech for the microphones?"

"No! No, I'm too excited. Hilda dear, isn't this wonderful? All these years I have worked for this—"

"Then let's get started," Vane interrupted. "This is a good dramatic time. Close that port."

"Yes, we'll start now. Hilda and I will sit here. There will be a starting shock, Hilda. Don't be afraid—I'll hold you."

Vane closed all the portes. In effect the little vehicle was a space ship now, almost capable of withstanding an outer vacuum.

"All ready?"

"Yes! Yes, Vane." Deely did not see the look which passed between his wife and Vane. For them this was a moment of crisis also. A moment of triumph. Hilda shrank against her husband;

but to her mind it was Gerald Vane she was clutching. They would fling themselves out into the future. And in that world of the future, she and Gerald would escape from the ship . . . . facing the future together . . . .

Gerald Vane pulled at a lever. Down in the lower control room the phlegmatic Brown calmly and efficiently responded. The little vehicle glowed and hummed, and was flung into time. . . .

In the lower lounge the two other men sat gripping their seats against the shock of starting.

"You all right, Thomasson?"

"Yes, I—I'm still here!"

"My God—this weird thing—where—where are we?"

PHIL THOMASSON half rose out of his chair, but sank dizzily back. The floor window-ports of the lounge-room showed a grey luminous blur. The door to the little deck stood open, but nothing could be seen out there save the reflected glow of a small deck light.

William Mink repeated, "Where—where are we?"

The pale, byronic Thomasson smiled. "Just passing through day after tomorrow, I should fancy."

It was romance to young Phil Thomasson. He knew nothing of the science of it, nor cared. With his inherited money he had financed all this. An adventure. Freedom from the boredom of being a too-rich young man with nothing to do in life save dissipate wealth.

To the perspiring, frightened William Mink it was an adventure also. Mink was a thick-set, paunchy man of fifty. At forty he had thought to conquer the financial world. But now at fifty he was a pauper. His banks had failed and shattered his mind. His mentality now was far from normal, though he did not know it. Perhaps it never had been normal. One cannot work with the obsession of unbounded wealth, desiring nothing else in life but money, and be of normal mind.

Mink was a good friend of Gerald Vane. He had indeed, upon many occasions loaned Vane money. He would have financed this Deely expedition—for the publicity which in many ways he could have turned to financial profit—had not his fortunes crashed and Phil Thomasson come forward and financed it instead.

And so Mink was here as an escape from his troubles. But Mink had also another idea. There were secrets in the future of the world which he could learn. Secrets which when he brought them back would speedily make him rich again.

But now he was terrified, so that Phil Thomasson gazed at him with a sarcastic smile.

"You're not much of an adventurer, are you? Brace up, Mink! We've started and we're still alive. That's a triumph, anyway."

Thomasson climbed to his feet unsteadily. "Jove, it's weird. Come on out on the deck, let's see what next year looks like. We're omnipotent, Mink. Little gods, with clay feet. . . ."

To gaze and see what next year looks like! But Nature was to play a sudden, sardonic trick to confound this band of necromancers, so that when they learned of it they were to gather, jammed, terror stricken into the upper little tower room, and even the stolid Brown was startled.

* * * *

The realization of what the destiny of the flight might be came to them apparently hours after the flight had started. It came with a shock, but then the thing was wholly understandable to Deely and to Vane. Deely indeed, had thought of it as a possibility, but hoped it would not come to pass since he could see no way of changing it. The realization that finally came, that while they were whirling through Time, they were also hurtling through Space, brought to each of them a secret confounding. Their secret plans were awry. *The vehicle had actually separated from the Earth*: and what they gazed at now through the turret bulls-eyes, was a luminous blurring vista of a starry firmament all in movement!

To Phil Thomasson it was less of a disappointment. He had thought to observe the follies of future generations and be amused; but after all it was amusing also to see these crazy swaying stars. And it was amusing to see the baffled, lustful Gerald Vane, and the baffled woman.

"But it's all right," Deely was trying to assure them, when the realization that they were in interstellar space, had finally penetrated. "We'll go into the future and then turn back. We cannot land anywhere—except back on Earth in what will always be the present time. The experiment is a success, Vane! Think of what an advance for science—look at those worlds out there!"

It was a blurred crazy Universe endowed optically with strange motion. The sun was drawing away. Saturn with his brilliant rings was coming forward. . . .

"Don't you realize, my friends," Deely went on vehemently. "We're explorers into the unknown of space and time. You think we're moving? We're not. This vehicle of ours has found absolute rest."

He gazed at the bank of dials before him, with their whirring indicators.

"We are in the future now. This is where the Earth will be at this time which we have already reached. And we are going fifty years into the future! What realms of starry space we will see—where the earth will be fifty years from now! Think of it—no man has ever penetrated those realms—"

"A space trip!" murmured Thomasson. "Jove, we start for a time-trip and it turns out to be a voyage among the stars! That's funny."

"And what a trip," exclaimed Deely. "Think of it—"

Thomasson was smiling ironically. "I am thinking of it. We can't gaze into the future of our earth! Don't you realize, man, this is the Almighty's little joke? You think with your science you can do everything, but you can't. The future has always been hidden from us, and it always will be."

"WE—we're in no danger then," stammered Mink. "Nothing has gone wrong with your mechanism?"

"Of course not," Deely reassured excitedly. "My time mechanisms are working perfectly. I have

conquered the secret of time. When we return, think what new facts we will have to add to science. Why, this involves gravity itself. It involves the cause of all movement. It shows that time is indeed the fundamental pivot upon which everything swings."

"Well," said Brown, "if everything's all right, I better get back to work. Them batteries maybe need renewin' already."

He tamped out his pipe and clambered down the ladder. "Chief," he called, "if Mrs. Deely needs any help gettin' the lunch, I'm ready any time."

"Hungry," said Deely, "of course we all must be hungry. Hilda dear, you go down and start things. I must stay here and make notes."

"Yes. Yes, Ronald."

"I'll help her," said Vane. "Come, Hilda."

In the small tower, crowded with the six of them, Hilda Deely had found herself pressed close against Gerald Vane. It seemed that everyone must hear the thumping of her heart. . . . She and Gerald standing so close that it seemed she could feel the rhythm of his heart against her breast. Every beat of that strong heart of his was for her. . . .

They descended the ladder and he turned suddenly in the empty lounge and flung his arms around her.

"Hilda!"

"Gerald, not so loud!"

"They can't hear us. Kiss me—"

"Brown may see us!"

"No! And what difference? He knows how to keep his mouth shut. . . . Kiss me. . . . He knows he'd lose his work with us. . . . It drove me frantic up there in the turret, Hilda. The warmth of you. . . ."

"Gerald, dear one. . . ."

They snatched, like this, another moment of madness. Or ecstasy? Or love? To Hilda, it was all of those.

"Gerald, I love you! Oh, take me away! Far away from everyone, Gerald—everyone but you."

And so the strange journey went on. A little world of itself, this Deely time-vehicle, hurtling into the future and out into the uncharted realms of interplanetary space. A world of six inhabitants. . . . They went fifty years from their starting point. Then sixty years. The journey consumed days of their life. And then Deely reversed the mechanism. Retrograding through time so that all the universe was adjusting itself and to the observers from the little tower it seemed that the solar system now so distant was again approaching.

Deely's mechanisms worked perfectly. For him it was a triumph. The dials recorded the passage of absolute time. Sixty years forward. Then the return. With what instruments he had at his command, Deely charted the apparent movements of the stellar universe. And his mind flung ahead. With a larger—a more powerful vehicle—the time transition could be greatly accelerated. Those sixty years had seemed about a week to the travelers now. Deely envisaged an apparatus which would penetrate sixty hundred, or sixty thousand years while the humans on it were experiencing only a few days.

Sixty thousand years! To what infinite realms of space such a ship would reach! The point where our earth will be sixty thousand years from now! Perhaps such a ship could land somewhere. . . .

CHAPTER IV.

The Discovery!

BUT Deely now, with the care and the precision of a true scientist, was heading back for a landing upon Earth. The time the voyagers had experienced would be about two weeks. And Deely knew that the laws of nature—unnameable laws, but inexorable—would allow him successfully to land at a point of time on earth that same two weeks *after* his departure. He would have lived those two weeks, and the earth-world would have lived them. All devised by nature into rationality. . . .

Deely was a careful man. No amount of enthusiasm now led him to want to take unnecessary chances. Two weeks was long enough for them to chance upon this voyage. They had brought food and water for a comfortable two weeks. It had seemed wholly adequate since they had intended to land in a future time-world of earth where supplies would be available. And the batteries too, were safely adequate for no longer an operation than that.

"We'd better turn back," Deely had said to Vane. "Don't you think so?"

"Yes, I do. Stick to safety—always my idea, in everything."

Even in those stolen moments—safety in everything for Vane.

So they turned. It was just after they had passed the point at which they were still fifty years ahead of the earth when Fate dealt out to Deely in these hours of his triumph, a blow terrible, crushing—and yet perhaps merciful.

Gerald Vane and Hilda had been alone so much during this week of the outward trip, that Vane—playing always for safety—forgot his motto. Brown was generally in the lower mechanism room. Mink was always abstracted, brooding and morose. Thomasson was gay when there was anyone to listen—or if not that, he was immersed in an interminable chronicle for his own amusement; and Deely slept, ate and worked upon his scientific data.

It left Hilda and Vane with many stolen moments. A sweet intimacy—not yet cloying—for it made Gerald Vane ever more bold. . . .

And then came that moment of the return flight when Deely received his crushing blow. It chanced to be, in the living routine of this little world, after the evening meal. One might call it "nearly midnight". Deely at this time was ordinarily asleep, worn to the point of exhaustion by his mathematics.

But this night he awakened. Hilda was not in their sleeping room, but it caused Deely no second thought for Hilda often remained up after he retired, sitting in the lower lounge with Mink and Vane. Deely suddenly found himself strangely wakeful. The problem on which he had been working after supper was unfinished, and now the solution of it seemed ready to be found.

He slipped from his bed, into slippers and outer robe and left the small triangular room. It was

glowing with the strange iridescence of the time-current. The humming which always pervaded the interior of the disc was like music to Deely's ears. Outside his cabin window, through the bullseye pane, he saw the familiar vista of the stars—all blurred and unreal and flowing with a silent movement (in retrograde now) which marked the changing positions of the heavens with the years.

The upper tier of the small vehicle with its four cabins, had a narrow corridor bisecting it like a diameter line. The corridor was unlighted, save for the glowing metal walls. Deely, in his grey cloth gown and his rumpled white hair, moved along the corridor toward the spiral ladder leading to the tower where he knew Phil Thomasson would be on watch. He mounted the ladder. He might have heard soft voices from one of the rooms off the corridor had he stopped to listen, but he did not.

Thomasson greeted him. "Well, Deely, shouldn't you be asleep?"

"I couldn't—I can't sleep. I woke up with that accursed problem tormenting me. Stay where you are, Phil—I'll sit here. Or would you rather go to bed? I shall be here several hours, I imagine."

"I'll stay," said Thomasson. "What is sleep to me? I've been watching those crazy lurching stars. I say, one might read his destiny in them if he were clever enough, mightn't he? And then he'd be worse off—realizing what hell lay ahead of him."

But Deely was already immersed in his formulae, with Thomasson watching him thoughtfully. A nice fellow, this Deely. Too impractical for a hard world of reality. A fellow who was bound to get hurt. It occurred to Thomasson rather too bad that one must be destined for disillusionment and heartache. . . .

BY some trick of fate, it seemed to Thomasson that there was a sudden stillness about the vehicle. Voices in a soft murmur came floating up the ladder to the tower room.

"Gerald dear, I must go—if he should awaken—"

"Nonsense, Hilda—you know he sleeps for hours."

"Gerald, please. . . ."

"But I won't let you go now. . . ."

Thomasson was about to speak—to say something, anything to drown the damning sounds. He had thought that Deely had not heard, but he saw Deely's face and its expression struck him dumb.

And again the voice of Hilda floating up to them. "Gerald—darling, I'm going. But kiss me—once more, oh hold me close—I don't want to leave you."

There seemed a strange blankness on Deely's face as though all his reasoning were paralyzed to leave him blankly staring. And slowly the blood was draining so that he was white to the lips.

"I say—" began Thomasson. But Deely's vague gesture silenced him as effectively as if it had been a roaring command. The murmuring had ceased momentarily. There was an interval while Deely stared blankly with his pencil still poised over the paper. Then the pencil dropped with a little thud and Deely was fumbling with his chair, trying to rise to his feet.

Thomasson found his voice. "Where are you going?"

"Downstairs. I guess—I think I want to go down. . . ."

"But I say, I wouldn't do that." He put a hand on Deely's thin shoulder. "Take it easy, old fellow. Give it thought. I say—damn it, I'm sorry for you. Look here—don't go down there now."

Deely sank back. "I guess you're right. Give it thought. . . . I guess you're right."

Mercifully, there came no more of the horrible words. For minutes Deely sat staring, with Thomasson regarding him. What was there to say? Thomasson could think of nothing. It is a tragic thing to sit and watch a man stricken by a knife thrust into his heart by the woman he loves. Deely seemed to realize it very slowly, as though the thing were impossible, and all his faculties were numbed, groping with it. His pale blue eyes had been staring through the metal walls of the little tower; then at last they came and focussed upon Thomasson.

"You knew—this thing?"

"Yes. I knew it."

"And you did not tell me!"

"But how could I, old fellow? One does not go like a cad and tell his—"

"No. That's right. And Mink—he knew it?"

"I suppose so."

"And even Brown? So everybody knew it—everybody but me."

"But I say, Deely, look here—"

"And now I know it—at last. I guess you're right—give it thought—give it thought. . . You'll go down to bed now, won't you, Thomasson?" It was a gentle plea. "I want to stay here alone—to give it thought."

And Thomasson was glad enough to escape, for it was an awkward thing to sit helplessly and watch a man whose castle is clattering down into bits of broken glass at his feet.

"Yes, I'll go." He touched Deely. "I say, I'm sorry as hell. You know that."

"Yes—thanks."

Deely's gentle white face was vaguely staring with a confused stricken wonderment as Thomasson went down the ladder. The sleeping rooms were quiet. Thomasson, seeking his own, peered into the opened door-oval of Deely's as he passed it. Hilda lay there on her own couch, apparently asleep. Her black braids were on her breast. The pale, slim beauty of her face seemed so pure. Thomasson sighed, entered his own room and drifted, after an interval, into uneasy slumber.

A sudden, lurching shock awakened him. Something was wrong with the ship. He realized there was no humming, no vibration, no iridescent glow to the room-walls. The time-mechanism was not operating!

As he gained his feet Thomasson heard the distant shouts of his companions. In the corridor he ran into Hilda, a white spectre in her long filmy night robe.

"Oh, what is it, Mr. Thomasson? What's wrong? Where is Ronald? I woke up—"

Gerald Vane dashed toward them. "Where is Deely? What in hell has happened?"

THERE was only wan starlight in the narrow upper corridor from its end windows. Vane

was as white as the woman.

"Gerald!" She clutched at him, but he flung her off.

"Don't do that, you fool! Thomasson, where is Deely?"

In a nearby door-oval Mink appeared. "What is it? We're not—not wrecked? Are we in danger, Vane? In danger. . . ." His voice shrilled and broke. He clutched at the door casement. In danger. . . ."

From down on the lower tier Brown was shouting:

"It's gone dead! Everything's off! What'll I do? Them signals won't work to the tower—nobody answers."

Vane was rushing toward the tower ladder, and slowly the figure of Deely came down. He pulled his dressing gown around his thin shoulders and with a shaking hand smoothed his rumpled hair. But his voice was calm.

"Don't get excited. No danger—I stopped our time-flight."

Brown arrived. "But Professor, them controls. . . ."

"What matter, Brown? Come down to the lounge, all of you. I want to show you the stars through the window there. The firmament is rational—at last. The stars are very beautiful."

His gaze went to his wife. "Ah, Hilda—have you slept well? Too bad to awaken you."

"Look here," shouted Vane. "What are you talking about? Stopped our time flight? Why? And no one on guard in the turret—"

In Deely's drab, mild eyes a sudden fire came. "Do as I tell you, Vane. All of you—come down to the lounge. . . . Stop that sniveling, Mink. . . . Hilda, you go ahead with Gerald. Don't let her fall, Vane. She looks so frightened. . . ."

The strange force of Deely made them gather silently in the lounge. The vehicle was at rest, poised in the void of infinite space. Through the windows they could all see the motionless firmament, freed now from the distortion of their time flight. A vast bowl of black velvet—a hollow interior of unfathomable capacity with themselves hanging in its center—and everywhere now the motionless blazing worlds.

Brown found his voice. "Are we all crazy? We can't stop here like this! We haven't no air or water to stop. We'll be killed. . . ."

Vane gasped: "Start the mechanism, Brown. You damn fool, don't stay here. . . ."

"But I can't! Nothin' works! He. . . ."

Vane turned upon Deely. "What have you done, you. . . ."

Deely suddenly back away. He faced them all, with even a greater calmness.

"I thought it would be a wise thing to smash the mechanism. I have no need of it any longer—so I smashed it."

"Death. . . . ." Only Mink could find voice—the words came with a shrill ascending scream. "Death! "Death—Oh, my God. . . ."

As though all the scene were sharpened and reduced to miniature, Thomasson saw Mink clutching at his throat and screaming; Hilda, white as a beautiful wraith; and Gerald Vane, staring with dumb amazement, and then leaping upon Deely.

"Wrecked us? You—you—" His thickened tongue refused him. "You—wrecked—"

"Not I? It was you who wrecked us." Deely sat down on the couch, with pale eyes surveying them all. "You and the woman—wrecked us. All of you saw it—all but me, and no one bothered to tell me. . . . Go to him, Hilda. There's nothing to stop you now. Go and take comfort in his loving arms."

But she only stood staring. Mink, still screaming, rushed away. And Brown, cursing to himself, dashed for his control room. Vane took a step, and whirled. "You—crazy—fool. . . ."

"I was—but I'm not now. Hold her in your arms, Vane. Don't you see she's frightened?"

Thomasson gasped. "But I say, the wall might explode—hadn't we better try to repair the controls? Vane, come up to the tower. That's where he—"

"No use," Deely interrupted. And now he spoke vehemently. "You can't repair it. The walls won't explode—but our air is leaking out. We've a few hours—two or three. Sit down—if you've anything to do before death—any things to think about. . . . Hilda, you belong in his arms. I shouldn't waste time if I were you. A few hours isn't very long for loving—like yours and his."

It seemed to the stricken Thomasson that she would fall. She swayed toward Vane, but his terrified hysterical glare and his words stopped her.

"You brought this on me! You with your pale face—your kisses—"

"Gerald—"

"You rotten little—"

Vile epithet, so vile that as Vane turned and staggered from the room Thomasson was impelled to take a menacing step toward him. But Deely said,

"Come back, Thomasson! Don't bother." Deely was vaguely smiling. "She isn't—she didn't mean to be—quite that. Sit down, Hilda—it's too bad if you're going to lack the comfort of his love at the end—but I guess you are."

CHAPTER V.

Last Moments

IT all blurred for a moment to Thomasson's shocked senses. One cannot be struck with the realization of death's inevitable nearness and maintain normality. It occurred vaguely to Thomasson that there was nothing to do. He found himself seated at the little table where he had done most of his writing, and on it before him was his note-book and pencil. . . .

Nothing he could do, and death was coming. He heard, vaguely, the running footsteps of Vane and Brown as they dashed around the ship. . . . They were trying to accomplish the impossible. And shouting frantically about it. Like struggling rats in a cage immersed in water. . . . That was an amusing thought. . . .

Thomasson stared across the starlit lounge at Deely and his wife. They sat numbly gazing at each other. Perhaps they were thinking of all the happy moments they had once had together. . . . Thomasson felt himself like a man dazed by drink. This little ship was a tiny world in the silent void

of interplanetary space, and because death was coming, madness stalked it.

All of them were mad. . . . It was an amusing thought. Thomasson contemplated that this proximity of death was like drink. Perhaps they were all their real selves for the first time since childhood. Drink does that. The man of low breeding becomes more vulgar. The gentleman is punctiliously polite. . . .

Thomasson was aware of a turmoil outside the room. The shouts of Vane and Brown. Thudding blows of metal against metal. Then a horrible agonized death-scream from Mink. . . .

"He's locked himself in the food room!" Vane gasped. "Brown, get him out of there! Eating our food—more than his share—keeping it from us. . . ."

They stood by the closed metal door. Mink was inside. They would hear him moving. Vane put his ear to the door. Mink was babbling to himself.

"All this for me. Nobody can have any of it, but me. Food and drink—that's life. Nobody can die with all this food and drink."

Stark mad! Vane heard him fall over a cask of water. The gurgle as it spilled sounded horribly plain. Their precious water spilling, with this madman wasting it.

Vane's fist thudded against the door. "Mink, open here! Let us in!"

Brown shouted, "Say, you, open this door!"

But there was only silence as though Mink were crouching like a trapped animal.

Vane pounded harder. The door resounded with the blows of the heavy iron wrench which Brown was carrying. Then it suddenly occurred to Vane that there was no lock on the inside of this door.

"He's got things piled against it, Brown! Only that. Help me shove."

With their shoulders they heaved. The door yielded a little; there was an inch of space. And now, in the silence as momentarily they rested, they could hear Mink scuttling back and forth around the little room. An animal, trapped, in a frenzy of fear and hate. The boxes of food were clattering as he scattered them. And they heard his mouthing, mumbling words:

"Food and drink. Nobody can die in here. . . ."

"Harder, Brown! Damn it—shove. . . ."

The door suddenly went inward as the water casks and boxes which were piled against it were shoved backward. Over the litter, Vane and Brown tumbled forward. The dark, triangular room was scattered with broken boxes of food, and wet with spilled water. The light from the corridor shone on Mink as he crouched in his white night-robe. His hands were before him, with clawing fingers; his lips snarled with bared teeth and his eyes were blazing with maniacal fury.

"You—go 'way! Get away from me!"

And as Vane recovered his balance the frenzied Mink was on him, clawing at him, gouging at his eyes, and the bared teeth closed on the flesh of his throat.

"Brown! Good God—help!"

Brown saw the two swaying forms in the blue tube-light glow from the doorway. Vane stumbled and fell. Brown raised his heavy wrench and crashed it upon Mink's head. The room filled and echoed with Mink's horrible death-scream, and Brown staggered back, staring as Vane lifted himself from the gruesome thing on top of him.

"Did it, Brown! Good enough! He's dead—what of it? We've saved the food and water."

But Brown had never killed a man before. He stammered, "That—looks awful. Them brains—that. . . ."

"Come on outside."

"Yes."

THEY stumbled to the corridor. Brown found himself still holding the wrench. He dropped it with a shudder.

"I'm goin' to the deck. Cool off. That looked awful—that blood an' them brains. . . ." He wavered away, muttering to himself.

Vane dashed to the lounge. Thomasson was at his little table. Hilda was in a chair, and Deely still sat on the couch.

Vane gasped, "Mink went crazy. Wrecked our storeroom—Brown killed him with a wrench—look where he bit me. Stark, raving mad—the fool."

There was blood on Vane's neck and on his chalk-white face—some of it his own, and some Mink's. He wiped his face with his sleeve.

"The crazy fool. . . ."

Deely barely moved. "Sit down, Vane. No—close that door first. You're wise to come in here—this is the best place. We can hold the air a little longer in here."

Thomasson could feel that the air was going. His checks were hot and prickling as though the blood were trying to ooze out through the skin. His head was humming—or was the roar in his ears?

Vane slammed the door. "I don't want to die! Deely, can't you do something? Good God, we've got to do something—not just let ourselves die like this! Deely, for God's sake. . . ."

"Nothing I can do, now," Deely said calmly.

"The control mechanism. . . ."

"Didn't you see it, Vane?"

"Yes, I saw it. Brown and I saw it. You—you smashed it. . . ."

"Yes. I told you that."

"But Deely, please—you can fix it. You know more it than Brown or me. . . ."

Vane was whimpering like a child. "Hilda, tell him to fix it. Tell him, Hilda. . . ."

But Hilda Deely only stared; and it seemed to the watching, fascinated Thomasson that there was a faint, very queer smile on her vivid lips.

"You'd better sit down," Deely said. "Save your strength—the air is getting very thin. Losing pressure fast. . . ."

And just at that moment the air began escaping still faster. From a thousand places around the little disc-like vehicle as it hung poised in the vacuum of space, the precious air was leaking out. Brown, clinging to a chair on the curved starlit deck-corridor could hear the silence of everything broken by the faint hiss and whine of the air as it went out.

(*Concluded on Page* 136)

Zina The Killer

by Walter Livingston Martin

ZINA was ravenously hungry; for several days, she had fasted. This hunger had not made her docile; on the contrary, it had added to her naturally ugly disposition until all twelve joints of her body and slender tail fairly ached with the desire to kill.

She was not a beautiful creature by any means. Her body was formed by seven plump sections, graduating into a jointed and slender tail of five sections. Her thorax was graced with four sets of rather hairy legs, while just back of her head were two lengthy and sturdy pedipalps extending forward and outward, ending in broad claws.

Her tail, which terminated in a vicious looking sting, was her death-dealing instrument, and was ordinarily carried arched over her back; but Zina was angry now, hence her stinging appendage was straightened out in readiness for a thrust. To accomplish this, she had merely to curve her tail quickly over her back toward her intended victim.

THIS little gem of a story is offered to our readers as an indication of how the ordinary wonders of nature make dramatic material. The life of the scorpion, is filled with phases interesting and unusual. The killing of the lover and the succumbing to the new-born children are things that indicate how peculiarly nature may work at times.

Although this story is a variation from our usual run, it struck the editors' fancy so much that we decided that we must give our readers the benefit of it.

We would be glad to get your comments on how you liked this fascinating drawing from nature's vast sketch book.

Being an almost fully grown six inch scorpion, Zina had passed the stage where she could only catch tiny insects for her prey.

Came the mating season when she and her lover had sought seclusion in a crevice in an ancient coral rock fence. After the love-making, she had suddenly decided she must kill and kill she did, her first victim being none other than her lover. After several poisonous stabs, she left him in the agonies of death and crept forth to seek food.

Fortunately, it was dark; for had it not been, she would never had dared to come into the open. As she glided cautiously along, her eyes suddenly caught a glimpse of a slight fluttering movement a few feet away. Creeping closer, she saw a huge moth in the act of settling on the rock fence. Zina charged and with extreme accuracy seized him with her lobster-like claws. Here, indeed was a delightful meal. She hastened to cover and there feasted leisurely.

She was not entirely unlike her distant relatives, the spider family in her gluttonous appetite, nor did she have any scruples against including an occasional spider in her menu.

When she had finished her repast, she started out again, this time in a different direction. She made her way up the side of the fence, across its broad top, and down the opposite side, to a cement walk. Some fifty feet away was a street intersection, made like day by the rays of an electric street light. There she had reason to believe an abundance of insects might be found to appease her.

This trek required a great deal of courage because of the danger involved in allowing herself to become so plainly visible, but would be well worthwhile because of the choice of foods that she might be fortunate enough to encounter. She scurried across the sidewalk, barely reaching the parkway separating it from the street in time to avoid an encounter with her arch enemy — a man. Luckily, he did not see her, or, if he did, he realized the useless of trying to find her once she had concealed herself in the vegetation.

After a short pause, she continued on her way. Being intent upon her future feast, Zina failed to retain her customary caution and unexpectedly came upon a hard dark something, lumbering slowly through the grass. Alarmed, she hurled her sting at it, only to find that the giant's shell was too strong to be easily pierced. This attempt at his life caused the beetle to turn, and to Zina's chagrin, he was armed with a pair of extremely strong pinchers. Zina retreated a bit and none too soon, for the pinchers of her new enemy came together with a snap that would have pierced her body, had they found their mark. To run away never occurred to the scorpion. Here was a worthy opponent.

Circling the beetle, so as to avoid his weapon, she pounced upon his back, but had difficulty in obtaining a hold. Although the beetle was a slow moving one, he was strong and fighting for his life. When Zina lost her hold upon him, he turned as quickly as he could, making another attempt to seize her with his horny forceps. This time, he did not fail completely, partially because Zina was too sure of her own prowess and did not retreat enough. This carelessness cost her one of her claws, which was snapped off so quickly she hardly felt any sensation.

The incident was a lesson to her, however, and with a great deal of added caution, she again circled the beetle. After two attempts, she succeeded in getting the grip she sought, and slowly she brought her remaining claw under his armored wing covering. The rest was easy for her—once ingress was made under this protective covering, it was a simple matter to inflict a death wound.

NOT desiring this particular diet, she made her way to the spot beneath the electric light and seized a small moth, which afforded her a more tasty morsel.

It is difficult to say exactly what warned her, but she was suddenly aware of great danger. As quickly as she could, she rushed through a dark opening in the curb just in time to escape being crushed by a street sweeping machine. She crawled further into the storm sewer, and, in her haste, lost her footing and fell several feet into a stream of water that carried her along into absolute darkness.

Struggling until she was able to reach the damp wall, she drew herself out of the water. Slowly she crawled along the side until she came to an opening similar to the one that had been the source of her misfortune. She very carefully made her way toward the faint light—then, just as the goal was nearly at hand, two tiny balls of fire dashed at her. The body of a vicious sewer rat was barely discernible in the dim semi-darkness. Zina made ready for her enemy and with a savage thrust, buried her sting in the rat's body. So violently did she strike him, that she again lost her hold and fell into the water.

Her struggles were more feeble this time, as her recent adventures had taxed her strength almost to the limit. When she had finally gained the sewer wall, it was necessary for her to rest an hour before making another try for escape. While she was so occupied, the body of the rat, which had been the last recipient of her sting, floated slowly by her. The poison she had injected into his body had been ample to end his career.

She could not have affected a fatal wound in all animals—for example, a man would not succumb as a result of her sting, but he might experience a great deal of anguish or even become ill. It is interesting to note that in certain sections of dry desert country, where scorpions abound in large numbers, some of the denizens, such as prairie dogs and foxes, are made immune by nature to their sting.

As soon as she had sufficiently recovered, she began again the slow and torturous route to freedom. After picking her way carefully along for a time, she was again compelled to pause for rest. During the interval, she tried to locate another opening to the street, but all about her was the same impenetrable darkness. She struggled forward again and after countless periods of crawling and resting, she found an exit. Fortunately, it was night, but whether a day or several days had elapsed, she had no way of knowing.

As she crawled into the open, her first thought was of food, but she was too exhausted to risk a very strenuous encounter in making a kill. Zina made several unsuccessful attempts before she finally managed to catch a small grasshopper. The meal strengthened her and made her drowsy, so she chose a crevice under a convenient stone and there she slept.

UPON awakening, she was again at a loss to know how long she had been in hiding, but it was gloriously dark. She ventured forth slowly, searching for and finding further sustenance, after which she retired to another hiding place. Unconsciously, Zina was slowly making her way back to her old haunts in the ancient coral rock wall. Some nights practically no distance was covered, yet always when she sought shelter, she was nearer than she had been on the previous night.

She fed well, and was quite noticeably larger than when she had left her dying lover. Soon she would be a mother, which according to the law of nature, would be her last adventure.

One night, when she began her search for food, she had six tiny scorpion babies clinging to her broad back. They annoyed her somewhat but nevertheless, she fed again and for the last time—for from that time hence, she seemed seized with an urgent desire to move on and on; so through the night she crept until the first light of dawn compelled her to seek safety in hiding.

Meanwhile, her offsprings were dining well, and had made considerable progress toward consuming the body of their mother; yet she did not die. Each night she moved on, until finally she reached her destination. She climbed up the wall, almost, but not quite, losing her footing, and at last she came to the top. Then, slowly and carefully, she crept down the opposite side. Finding a crevice to her liking, she entered, clinging to the ceiling of the shelter. Her strength failed her then and she fell—not far, a foot perhaps.

When her body struck the floor, her babies scattered in all directions, each to shift for himself.

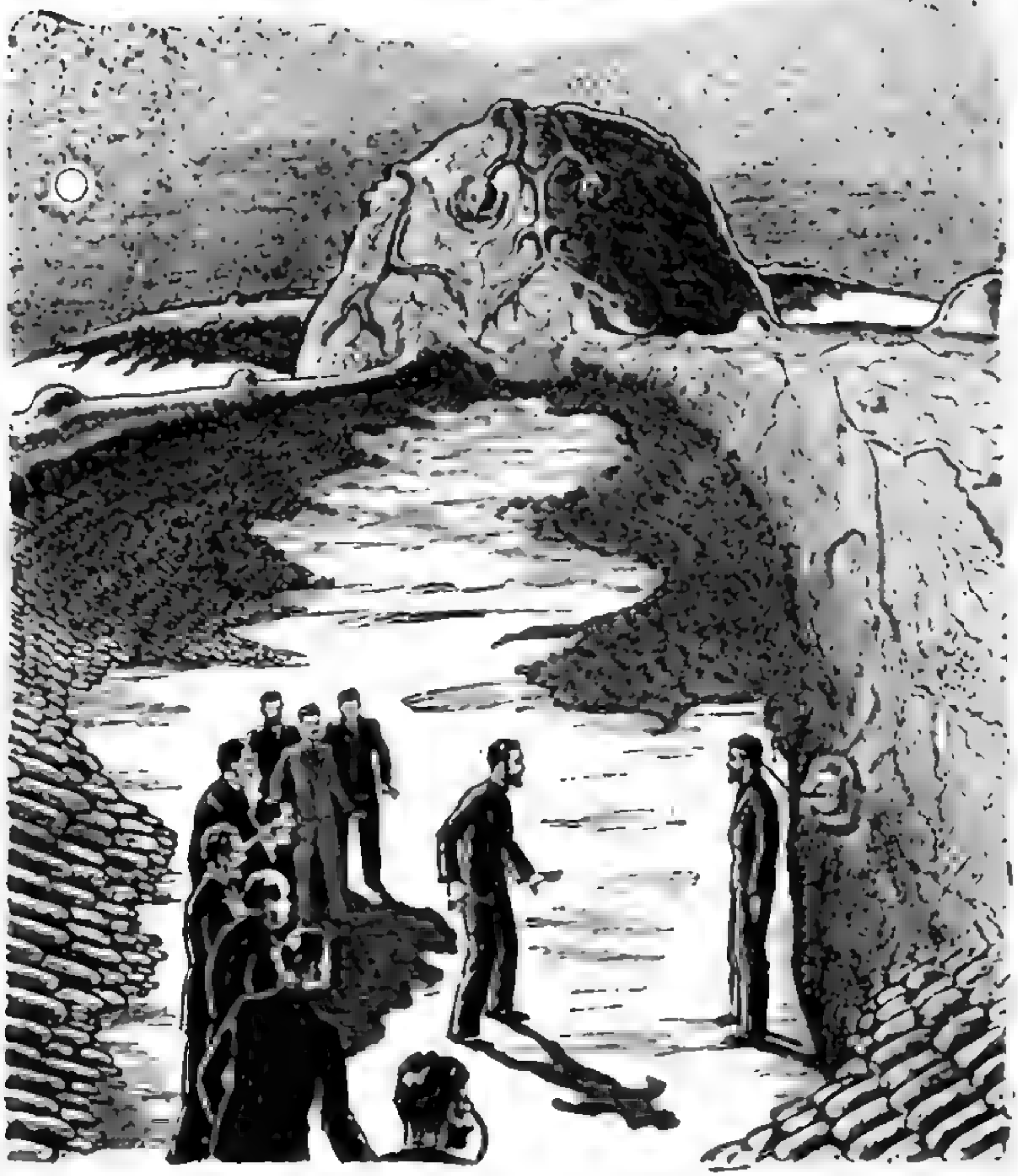
Zina's body quivered for a few moments and then lay still. By some strange fate, she had returned to her former love nest. She died as she had lived—violently, which is nature's way of striking a balance, but unfortunately for the romantic possibilities of this biography, she left no record as to whether she knew that her dead lover lay beside her.

THE END

READERS—TURN TO THE EDITORIAL PAGE FOR AN ANNOUNCEMENT OF UNUSUAL INTEREST.

The Planet Entity

by E. M. Johnston and Clark Ashton Smith



(Illustration by Kirchner)

The thing was unbelievable. It was all the more incredible to Gaillard. The garments, the shoes were replicas of those worn by himself. Every limb was proportioned like his.

The Planet Entity

Based on the ($25.00) Second Prize
Winning Plot of the Interplanetary Plot Contest
Submitted by E. M. Johnston, Box 516, Collingwood, Ont., Canada

E. M. JOHNSTON
Who Furnished the Plot

CLARK ASHTON SMITH
Who Wrote the Story

THIS story, in many ways, is one of the most unusual we have published. Its theme is not only original, but at Mr. Smith's capable hands, it takes on added meaning.

The mystery of the Martian canals has been explained in many ways. Most authors assume that they are irrigation canals to give water to the dry Martian deserts. Some astronomers believe that they are merely illusions and do not really exist. Certainly they present to us one of the most fascinating puzzles of modern science.

Messrs. Smith and Johnston have their own explanation for the canals—as a gigantic antic sentient entity. And were this planet entity to exist, it might have an intelligence, an understanding and a power that would make us seem like microbes by comparison.

Yet such an entity might one day enter into our lives on earth, and provoke the cataclysmic storm of events that makes up this powerful story.

IT was in the fall of 1947, three days prior to the annual football game between Stanford and the University of California, that the strange visitor from outer space landed in the middle of the huge stadium at Berkeley where the game was to be held.

Descending with peculiar deliberation, it was seen and pointed out by multitudes of people in the towns that border on San Francisco Bay, in Berkeley, Oakland, Alameda, and San Francisco itself. Gleaming with a fiery, copperish-golden light, it floated down from the cloudless autumn azure, dropping in a sort of slow spiral above the stadium. It was utterly unlike any known type of aircraft, and was nearly a hundred feet in length.

The general shape was ovoid, and also more or less angular, with a surface divided into scores of variant planes, and with many diamond ports of purplish material different from that of which the body was constructed. Even at first glance, it suggested the inventive genius and workmanship of some alien world, of a people whose ideas of mechanical symmetry have been conditioned by evolutional necessities and sense-faculties divergent from ours.

However, when the queer vessel had come to rest in the amphitheater, many conflicting theories regarding its origin and the purpose of its descent were promulgated in the Bay cities. There were those who feared the invasion of some foreign foe, and who thought that the odd ship was the harbinger of a long-plotted attack from the Russian and Chinese Soviets, or even from Germany, whose intentions were still suspected. And many of those who postulated an ultra-planetary origin were also apprehensive, deeming that the visitant was perhaps hostile, and might mark the beginning of some terrible incursion from outer worlds.

In the meanwhile, utterly silent and immobile and without sign of life or occupancy, the vessel reposed in the stadium, where staring crowds began to gather about it. These crowds, however, were soon dispersed by order of the civic authorities, since the nature and intentions of the stranger were alike doubtful and undeclared. The stadium was closed to the public; and, in case of inimical manifestations, machine-guns were mounted on the higher seats with a company of Marines in attendance, and bombing-planes hovered in readiness to drop their lethal freight on the shining, coppery bulk.

The intensest interest was felt by the whole scientific fraternity, and a large group of professors, of chemists, metallurgists, astronomers, astrophysicists and biologists was organized to visit and examine the unknown object. When, on the afternoon following its landing, the local observatories issued a bulletin saying that the vessel had been sighted approaching the earth from translunar

space on the previous night, the fact of its non-terrestrial genesis became established beyond dispute in the eyes of most; and controversy reigned as to whether it had come from Venus, Mars, Mercury, or one of the superior planets; or whether, perhaps, it was a wanderer from another solar system than our own.

But of course the nearer planets were favored in this dispute by the majority, especially Mars; for, as nearly as those who had watched it could determine, the line of the vessel's approach would have formed a trajectory with the red planet.

All that day, while argument seethed, while extras with luridly speculative and fantastic headlines were issued by the local papers as well as by the press of the whole civilized world; while public sentiment was divided between apprehension and curiosity, and the guarding Marines and aviators continued to watch for signs of possible hostility, the unidentified vessel maintained its initial stillness and silence.

Telescopes and glasses were trained upon it from the hills above the stadium; but even these disclosed little regarding its character. Those who studied it saw that the numerous ports were made of a vitreous material, more or less transparent; but nothing stirred behind them; and the glimpses of queer machinery which they afforded in the ship's interior were meaningless to the watchers. One port, larger than the rest, was believed to be a sort of door or man-hole; but no one came to open it; and behind it was a weird array of motionless rods and coils and pistons, which debarred the vision from further view.

Doubtless, it was thought, the occupants were no less cautious of their alien milieu than the people of the Bay region were suspicious of the vessel Perhaps they feared to reveal themselves to human eyes; perhaps they were doubtful of the terrene atmosphere and its effect upon themselves; or perhaps they were merely lying in wait and planning some devilish outburst with unconceived weapons or engineries of destruction.

APART from the fears felt by some, and the wonderment and speculation of others, a third division of public sentiment soon began to crystallize. In collegiate circles and among sport-lovers, the feeling that the strange vessel had taken an unwarrantable liberty in pre-empting the stadium, especially at a time so near to the forthcoming athletic event. A petition for its removal was circulated, and presented to the city authorities. The great metallic hull, it was felt, no matter whence it had come or why, should not be allowed to interfere with anything so sacrosanct and of such prime importance as a football game.

However, in spite of the turmoil it had created, the vessel refused to move by so much as the fraction of an inch. Many began to surmise that the occupants had been overcome by the conditions of their transit through space; or perhaps they had died, unable to endure the gravity and atmospheric pressure of the earth.

It was decided to leave the vessel unapproached until morning of the next day, when the committee of investigation would visit it. During that afternoon and night, scientists from many states were speeding toward California by airplane and rocket-ship, to be on hand in time for this event.

It was felt advisable to limit the number of this committee. Among the fortunate savants who had been selected, was John Gaillard, assistant astronomer at the Mt. Wilson observatory. Gaillard represented the more radical and freely speculative trend of scientific thought, and had become well known for his theories concerning the inhabitability of the inferior planets, particularly Mars and Venus. He had long championed the idea of intelligent and highly organized life on these worlds, and had even published more than one treatise dealing with the subject, in which he had elaborated his theories with much specific detail. His excitement at the news of the strange vessel was intense. He was one of those who had sighted the gleaming and unclassifiable speck far out in space, beyond the orbit of the moon, in the late hours of the previous night; and he had felt even then a premonition of its true character. Others of the party were free and openminded in their attitude; but no one was more deeply and vitally interested than Gaillard.

Godfrey Stilton, professor of astronomy at the University of California, also on the committee, might have been chosen as the very antithesis of Gaillard in his views and tendencies. Narrow, dogmatic, skeptical of all that could not be proved by line and rule, scornful of all that lay beyond the bourn of a strait empiricism, he was loath to admit the ultra-terrene origin of the vessel, or even the possibility of organic life on any other world than the earth. Several of his confréres belonged to the same intellectual type.

Apart from these two men and their fellow-scientists, the party included three newspaper reporters, as well as the local chief of police, William Polson, and the Mayor of Berkeley, James Gresham, since it was felt that the forces of government should be represented. The entire committee comprised forty men; and a number of expert machinists, equipped with acetylene torches and cutting tools, were held in reserve outside the stadium, in case it should be found necessary to open the vessel by force.

At nine a.m. the investigators entered the stadium and approached the glittering multi-angled object. Many were conscious of the thrill that attends some unforeknowable danger; but more were animated by the keenest curiosity and by feelings of extreme wonderment. Gaillard, in especial, felt himself in the presence of ultramundane mystery and marveled as he neared the coppery-golden bulk: his feeling amounted almost to an actual vertigo, such as would be experienced by one who gazes athwart unfathomable gulfs upon the arcanic secrets and the wit-transcending wonders of a foreign sphere. It seemed to him that he stood upon the verge between the determinate and the incommensurable, betwixt the finite and the infinite.

Others of the group, in lesser degree, were possessed by similar emotions. And even the hard-headed, unimaginative Stilton was disturbed by a queer uneasiness; which, being minded as he was, he assigned to the weather—or a "touch of liver."

The strange ship reposed in utter stillness, as

before. The fears of those who half-expected some deadly ambush were allayed as they drew near; and the hopes of those who looked for a more amicable manifestation of living occupancy were ungratified. The party gathered before the main port, which, like all the others, was made in the form of a great diamond. It was several feet above their heads, in a vertical angle or plane of the hull; and they stood staring through its mauve transparency on the unknown, intricate mechanisms beyond that were colored as if by the rich panes of some cathedral window.

All were in doubt as to what should be done; for it seemed evident that the occupants of the vessel, if alive and conscious, were in no hurry to reveal themselves to human scrutiny. The delegation resolved to wait a few minutes before calling on the services of the assembled mechanics with their acetylene torches; and while waiting they walked about and inspected the metal of the walls, which seemed to be an alloy of copper and red gold, tempered to a preternatural hardness by some process unfamiliar to telluric metallurgy. There was no sign of jointure in the myriad planes and facets; and the whole enormous shell, apart from its lucid ports, might well have been wrought from a single sheet of the rich alloy.

GAILLARD stood peering upward at the main port, while his companions sauntered about the vessel talking and debating among themselves. Somehow, he felt an intuition that something strange and miraculous was about to happen; and when the great port began to open slowly, without visible agency, dividing into two valves that slid away at the sides, the thrill which he experienced was not altogether one of surprise. Nor was he surprised when a sort of metal escalator, consisting of narrow stairs that were little more than rungs, descended step by step from the opening and came down to the ground at his very feet.

The port had opened and the escalator had unfolded in silence, with no faintest creak or clang; but others beside Gaillard had perceived the occurrence, and all hastened in great excitement and gathered before the steps.

Contrary to their not unnatural expectations, no one emerged from the vessel; and they could see little more of the interior than had been visible through the shut valves. They looked for some exotic embassador from Mars, some gorgeous and bizarre plenipotentiary from Venus to descend the queer steps; and the silence and solitude and mechanical adroitness of it all were uncanny. It seemed that the great ship was a living entity, and possessed a brain and nerves of its own, hidden in the metal-sheathed interior.

The open portal and stairs offered an obvious invitation; and after some hesitancy, the scientists made up their minds to enter. Some were still fearful of a trap; and five of the forty men warily decided to remain without; but all the others were more powerfully drawn by curiosity and investigative ardor; and one by one they climbed the stairs and filed into the vessel.

They found the interior even more provocative of wonder than the outer walls had been. It was quite roomy and was divided into several compartments of ample size, two of which, at the vessel's center, were lined with low couches covered by soft, lustrous, pilfated fabrics of opalescent grey. The others, as well as the ante-chamber behind the entrance, were filled with machinery whose motive force and method of operation were alike obscure to the most expert among the investigators.

Rare metals and odd alloys, some of them difficult to classify, had been used in the construction of this machinery. Near the entrance there was a sort of tripodal table or instrument-board whose queer rows of levers and buttons were no less mysterious than the ciphers of some telic cryptogram. The entire ship was seemingly deserted, with no trace of human or extraplanetary life.

Wandering through the apartments and marvelling at the unsolved mechanical enigmas which surrounded them, the delegation-members were not aware that the broad valves of the main port had closed behind them with the same stealthiness and silence that had marked their opening. Nor did they hear the warning shouts of the five men who had remained outside.

Their first intimation of anything untoward came from a sudden lurching and lifting of the vessel. Startled, they looked at the window-like ports, and saw through the violet, vitreous panes the whirling and falling away of those innumerable rows of seats which ringed the immense stadium. The alien space-ship, with no visible hand to control it, was rising rapidly in air with a sort of spiral movement. It was bearing away to some unknown world the entire delegation of hardy scientists that had boarded it, together with the Berkkeley Mayor and Chief of Police and the three privileged reporters who had thought to obtain an ultra-sensational "scoop" for their respective journals!

CHAPTER II.

Shanghaied Into Space

THE situation was wholly without precedent, and was more than astounding; and the reactions of the various men, though quite divergent in some ways, were all marked by amazement and consternation. Many were too stunned and confounded to realize all the implications or possibilities; others were frankly terrified; and others still were indignant.

"This is an outrage!" thundered Stilton, as soon as he had recovered a little from his primary surprise. There were similar exclamations from others of the same temperament as he, all of whom felt emphatically that something should be done about the situation, and that someone (who, unfortunately, they could not locate or identify) should be made to suffer for such unparallelled audacity.

Gaillard, though he shared in the general amazement, was thrilled to the bottom of his heart by a sense of unearthly and prodigious adventure, by a premonition of interplanetary emprise. He felt a mystic certainty that he and the others had embarked on a voyage to some world untrodden heretofore by man; that the strange vessel had descended to earth and had opened its port to in-

vite them for this very purpose; that an esoteric and remote power was guiding its every movement and was drawing it to an appointed destination. Vast, inchoate images of unbounded space and splendor and interstellar strangeness filled his mind, and unforelimnable pictures rose to dazzle his vision from an ultra-telluric bourn.

In some incomprehensible way, he knew that his life-long desire to penetrate the mysteries of distant spheres would soon be gratified; and he (if not his companions) was resigned from the very first to that bizarre abduction and captivity in the soaring space flier.

Discussing their position with much volubility and vociferousness, the assembled savants rushed to the various ports and stared down at the world they were leaving. In a mere fraction of time, they had risen to a cloud-like altitude. The whole region about San Francisco Bay, as well as the verges of the Pacific ocean, lay stretched below them like an immense relief map; and they could already see the curvature of the horizon, which seemed to reel and dip as they went upward.

It was an awesome and magnificent prospect; but the growing acceleration of the vessel, which had now gained a speed more than equal to that of the rocket-ships which were used at that time for circling the globe in the stratosphere, soon compelled them to relinquish their standing position and seek the refuge of the convenient couches. Conversation also was abandoned, for everyone began to experience an almost intolerable constriction and oppression, which held their bodies as if with clamps of unyielding metal.

However, when they had all laid themselves on the piliated couches, they felt a mysterious relief, whose source they could not ascertain. It seemed that a force emanated from those couches, which alleviated in some way the leaden stress of increased gravity due to the acceleration, and made it possible for the men to endure the terrific speed with which the space-flier was leaving the earth's atmosphere and gravitational zone.

Presently they found themselves able to stand up and walk around once more. Their sensations, on the whole, were almost normal; though, in contradistinction to the initial crushing weight, there was now an odd lightness when compelled them to shorten their steps to avoid colliding with the walls and machinery. Their weight was less than it would have been on earth, but the loss was not enough to produce discomfort or sickness, and was accompanied by a sort of exhilaration.

They perceived that they were breathing a thin, rarefied and bracing air, not dissimilar to that of terrene mountain-tops, though permeated by one or two unfamiliar elements that gave it a touch of nitric sharpness. This air tended to increase the exhilaration and to quicken their respiration and pulses a little.

"This is damnable!" spluttered the indignant Stilton, as soon as he found that the powers of locomotion and breathing were reasonably subject to control. "It is contrary to all law, decency and order. The U. S. Government should do something about it immediately."

"I fear," observed Gaillard, "That we are now beyond the jurisdiction of the U. S., as well as that of all other mundane governments. No plane or rocket-ship could reach the air-strata through which we are passing; and we will penetrate the interstellar ether in a moment or so. Presumably this vessel is returning to the world from which it came; and we are going with it."

"Absurd! preposterous! outrageous!" Stilton's voice was a roar, slightly subdued and attenuated by the fine atmospheric medium. "I've always maintained that space-travel was utterly chimerical. Even earth-scientists haven't been able to invent a space-ship; and it is ridiculous to assume that highly intelligent life, capable of such invention, could exist on other planets."

"How, then," queried Gaillard, "do you account for our situation?"

"The vessel is of human origin, of course. It must be a new and ultra-powerful type of rocket-ship, devised by the Soviets, and under automatic or radio control, which will probably land us in Siberia after travelling in the highest layers of the stratosphere."

GAILLARD, smiling with gentle irony, felt that he could safely abandon the argument. Leaving Stilton to stare wrathfully through a port at the receding bulk of the world, on which the whole of North America, together with Alaska and the Hawaiian Islands, had begun to declare their coastal outlines, he joined others of the party in a renewed investigation of the ship.

Some still maintained that living beings must be hidden on board; but a close search of every apartment, corner and cranny resulted as before. Abandoning this objective, the men began to reexamine the machinery, whose motive-power and method of operation they were still unable to fathom. Utterly perplexed and mystified, they watched the instrument-board, on which certain of the keys would move occasionally, as if shifted by an unseen hand. These changes of alignment were always followed by some change in the vessel's speed, or by a slight alteration of its course, possibly to avoid collision with meteoric fragments.

Though nothing definite could be learned about the propelling mechanism, certain negative facts were soon established. The method of propulsion was plainly non-explosive, for there were no roaring and flaming discharge of rockets. All was silent, gliding, and vibrationless, with nothing to betoken mechanical activity, other than the shifting of the keys and the glowing of certain intricate coils and pistons with a strange blue light. This light, cold as the scintillation of Arctic ice, was not electric in its nature, but suggested rather some unknown form of radio-activity.

After awhile, Stilton joined those who were grouped about the instrument-board. Still muttering his resentment of the unlawful and unscientific indignity to which he had been subjected, he watched the keys for a minute or so, and then, seizing one of them suddenly with his fingers, he tried to experiment, with the idea of gaining control of the vessel's movements.

To his amazement and that of his confreres, the key was immovable. Stilton strained till the blue veins stood out on his hand, and sweat poured in rills from his baldish brow. Then, one by one, he

tried others of the keys, tugging desperately, but always with the same result. Evidently the board was locked against other control than that of the unknown pilot.

Still persisting in his endeavor, Stilton came to a key of larger size and different shape from the rest. Touching it, he screamed in agony, and withdrew his fingers from the strange object with some difficulty. The key was cold, as if it had been steeped in the absolute zero of space. It had actually seemed to sear his fingers with its extreme icinesa. After that, he desisted, and made no further effort to interfere with the workings of the vessel.

Gaillard, after watching this interlude, had wandered back to one of the main apartments. Peering out once more from his seat on a couch of supernal softness and resilience, he beheld a breath-taking spectacle. The whole world, a great, glowing, many-tinted globe, was swimming abreast of the flier in the black and star-lined gulf. The awfulness of the undirectioned deeps, the unthinkable isolation of infinitude rushed upon him, and he felt sick and giddy for a few instants with the shock of realization, and was swept by an overwhelming panic, limitless and without name.

Then, strangely, the terror passed, in a dawning exultation at the prospect of the novel voyage through unsounded heavens and toward untrodden shores. Oblivious of danger, forgetful of the dread alienation from man's accustomed environment, he gave himself up to a magical conviction of marvellous adventure and unique destiny to come.

Others, however, were less capable of orientating themselves to these bizarre and terrific circumstances. Pale and horror-stricken, with a sense of irredeemable loss, of all-encompassing peril and giddy confusion, they watched the receding earth from whose comfortable purlieus they had been removed so inexplicably and with such awful suddenness.

Many were speechless with fear, as they realized more clearly their impotence in the grip of an all-powerful and incognizable force.

Some chattered loudly and incoherently, in an effort to conceal their perturbation. The three reporters lamented their inability to communicate with the journals they represented. James Gresham, the Mayor, and William Polson, the Chief of Police, were non-plussed and altogether at a loss as to what to do or think, in circumstances that seemed to nullify completely their wonted civic importance. And the scientists, as might have been expected, were divided into two main camps. The more radical and adventurous were more or less prone to welcome whatever might be in store, for the sake of new knowledge; while the others accepted their fate with varying degrees of reluctance, of protest and apprehension.

SEVERAL hours went by; and the moon, a ball of dazzling desolation in the great abyss, had been left behind with the waning earth. The flier was speeding alone through the cosmic vastness, in a universe whose grandeur was a revelation even to the astronomers, familiar as they were with the magnitudes and multitudes of suns, nebulae and galaxies. The thirty-five men were being estranged from their natal planet and hurled across unthinkable immensity at a speed far beyond that of any solar body or satellite. It was hard to estimate the precise velocity; but some idea of it could be gained from the rapidity with which the sun and the nearer planets, Mars, Mercury and Venus, changed their relative positions. They seemed almost to fly athwart the heavens like so many jugglers' balls.

It was plain that some sort of artificial gravity prevailed in the ship; for the weightlessness that would otherwise have been inevitable in outer space was not experienced at any time. Also, the scientists found that they were being supplied with air from certain oddly-shapen tanks. Evidently, too, there was some kind of hidden heating-system or mode of insulation against the interspatial zero; for the temperature of the vessel's interior remained constant, at about 65° or 70°.

Looking at their watches, some of the party found that it was now noon by terrestrial time; though even the most unimaginative were impressed by the absurdity of the twenty-four hour division of day and night amid the eternal sunlight of the void.

Many began to feel hungry and thirsty, and to voice their appetence aloud. Not long after, as if in response, like the service given by a good table d'hote or restaurant, certain panels in the inner metal wall, hitherto unnoticed by the savants, opened noiselessly before their eyes and revealed a series of long buffets, on which were curious wide-mouthed ewers containing water and deep, tureen-like plates filled to the rim with unknown foodstuffs.

Too astonished to comment at much length on this new miracle, the delegation-members proceeded to sample the viands and beverage thus offered. Stilton, still morosely indignant, refused to taste them but was alone in his abstention.

The water was quite drinkable, though slightly alkaline, as if it had come from desert wells; and the food, a sort of reddish paste, concerning whose nature and composition the chemists were doubtful, served to appease the pangs of hunger even if it was not especially seductive to the palate.

After the earth-men had partaken of this refection, the panels closed as silently and unobtrusively as they had opened. The vessel plunged on through space, hour after hour, till it became obvious to Gaillard and his fellow-astronomers that it was either heading directly for the planet Mars or would pass very close to Mars on its way to some further orb.

The red world, with its familiar markings, which they had watched so often through observatory telescopes, and over whose character and causation they had long puzzled, began to loom before them and swelled upon the heavens with thaumaturgic swiftness. Then they perceived a signal deceleration in the speed of the flier, which continued straight on toward the coppery planet, as if its goal were concealed amid the labyrinth of obscure and singular mottlings; and it became impossible to doubt any longer that Mars was their destination.

Gaillard, and those who were more or less akin to him in their interests and proclivities, were stirred by an awesome and sublime expectancy as

the vessel neared the alien world. Then it began to float gently down above an exotic landscape in which the well-known "seas" and "canals", enormous with their closeness, could plainly be recognized.

Soon they approached the surface of the ruddy planet, spiraling though its cloudless and mistless atmosphere, while the deceleration slowed to a speed that was little more than that of a falling parachute. Mars surrounded them with its strait, monotonous horizons, nearer than those of earth, and displaying neither mountains nor any salient elevation of hills or hummocks; and soon they hung above it at an altitude of a half-mile or less. Here the vessel seemed to halt and poise, without descending further.

Below them now they saw a desert of low-ridged and yellowish-red sand, intersected by one of the so-called "canals", which ran sinuously away on either side to disappear beyond the horizon.

The scientists studied this terrain in ever-growing amazement and excitement, as the true nature of the veining "canal" was forced upon their perception. It was not water, as many had heretofore presumed, but a mass of pale-green vegetation, of vast and serrate leaves or fronds, all of which seemed to emanate from a single crawing flesh-colored stalk, several hundred feet in diameter and with swollen nodular joints at half-mile intervals! Aside from this anomalous and super-gigantic vine, there was no trace of life, either animal or vegetable, in the whole landscape; and the extent of the crawling stalk, which netted the entire visible terrain but seemed by its form and characteristics to be the mere tendril of some vaster growth, was a thing to stagger the preconceptions of mundane botany.

CHAPTER III.

The Giant of Mars

MANY of the scientists were almost stupefied with astonishment as they gazed down from the violet ports on this titanic creeper. More than ever, the journalists mourned the staggering headlines with which they would be unable, under existing circumstances, to endow their respective dailies. Gresham and Polson felt that there was something vaguely illegal about the existence of anything so monstrous in the way of a plant-form; and the scientific disapproval felt by Stilton and his academically minded confréres was most pronounced.

"Outrageous! unheard-of! ludicrous!" muttered Stilton. "This thing defies the most elementary laws of botany. There is no conceivable precedent for it."

Gaillard, who stood beside him, was so wrapt in his contemplation of the novel growth, that he scarcely heard Stilton's comment. The conviction of vast and sublime adventure which had grown upon him ever since the beginning of that bizarre, stupendous voyage, was now confirmed by a clear daylight certitude. He could give no definite form or coherence to the feeling that possessed him; but he was overwhelmed by the intimation of present marvel and future miracle, and the intuition of strange, tremendous revelations to come.

Few of the party cared to speak, or would have been capable of speech. All that had happened to them during the past few hours, and all on which they now gazed, was so far beyond the scope of human action and cognition, that the normal exercise of their faculties was more or less inhibited by the struggle for adjustment to these unique conditions.

After they had watched the gargantuan vine for a minute or two, the savants became aware that the vessel was moving again, this time in a lateral direction. Flying very slowly and deliberately, it followed the course of the creeper toward what seemed to be the west of Mars, above which a small and pallid sun was descending through the dingy, burnt-out sky and casting a thin, chilly light athwart the desolate land.

The men were overpoweringly conscious of an intelligent determination behind all that was occurring; and the sense of this remote, unknowable supervision and control was stronger in Gaillard even than in the others. No one could doubt that every movement of the vessel was timed and predestined; and Gaillard felt that the slowness with which it followed the progress of the great stalk was calculated to give the scientific delegation ample opportunity for the study of their new environment; and, in particular, for observation of the growth itself.

In vain, however, did they watch their shifting milieu for aught that could denote the presence of organic forms of a human, non-human or preter-human type, such as might imaginably exist on Mars. Of course, only such entities, it was thought, could have built, despatched, and guided by some kind of automatic or radio control the vessel in which they were held captive.

The flier went on for a least an hour, traversing an immense territory in which, after many miles, the initial sandy desolation yielded place to a sort of swamp. Here, where sluggish waters webbed the marly soil, the winding creeper swelled to incredible proportions, with lush leaves that embowered the marshy ground for almost a mile on either side of the overlooming stalk.

Here, too, the foliage assumed a richer and more vivid greenness, fraught with sublime vital exuberance; and the stem itself displayed an indescribable succulence, together with a shining and glossy luster, a bloom that was weirdly and incongruously suggestive of well-nourished flesh. The thing seemed to palpitate at regular and rhythmic intervals beneath the eyes of the observers, like a living entity; and in places there were queerly shaped nodes or attachments on the stem, whose purpose no one could imagine.

Gaillard called the attention of Stilton to the strange throbbing that was noticeable in the plant; a throbbing which seemed to communicate itself even to the hundred-foot leaves, so that they trembled like plumes.

"Humph!" said Stilton, shaking his head with and air of mingled disbelief and disgust. "That palpitation is altogether impossible. There must be something wrong with our eyes—some disturbance of focus brought on by the velocity of our voyage,

perhaps. Either that, or there is some peculiar refractive quality in the atmosphere, which gives the appearance of movement to stable objects."

Gaillard refrained from calling his attention to the fact that this imputed phenomenon of visual disorder or aerial refraction was confined in its application entirely to the plant and did not extend its range to the bordering landscape.

SOON after this, the vessel came to an enormous branching of the plant; and the earth-men discovered that the stalk they had been following was merely one of three that ramified from a vaster stem to intersect the boggy soil at widely divergent angles and vanish athwart opposing horizons. The junction was marked by a mountainous double node that bore a bizarre likeness to human hips. Here the throbbing was stronger and more perceptible than ever; and odd veinings and mottlings of a reddish color were visible on the pale surface of the stem.

The savants became more and more excited by the unexampled magnitude and singular characteristics of this remarkable growth. But revelations of a still more extraordinary nature were in store. After poising a moment above the monstrous joint, the vessel flew on at a higher elevation with increased speed, along the main stem, which extended for an incalculable distance into the occident of Mars. It revealed fresh ramifications at variable intervals, and growing ever larger and more luxuriant as it penetrated marshy regions which were doubtless the residual ooze of a sunken sea.

"My God! the thing must surround the entire planet," said one of the reporters in an awed voice.

"It looks that way," Gaillard assented gravely. "We must be travelling almost in a line with the equator; and we have already followed the plant for hundreds of miles. From what we have seen, it would seem that the Martian 'canals' are merely its branchings; and perhaps the areas mapped as 'seas' by astronomers are masses of its foliage."

"I can't understand it," grumbled Stilton. "The damned thing is utterly contrary to science, and against nature—it oughtn't to exist in any rational or conceivable cosmos."

"Well," said Gaillard, a little tartly, "it does exist; and I don't see how you are going to get away from it. Apparently, too, it is the only vegetable form on the planet; at least, so far, we have failed to find anything else of the sort. After all, why shouldn't the floral life of Mars be concentered in a single type? And why shouldn't there be just one example of that type? It shows a marvellous economy on the part of nature. There is no reason at all for assuming that the vegetable or even the animal kingdoms on other worlds would exhibit the same fission and multiplicity that are shown on earth."

Stilton, as he listened to this unorthodox argument, glared at Gaillard like a Mohammedan at some errant infidel, but was either too angry or too disgusted for further speech.

The attention of the scientists was now drawn by a greenish area along the line of their flight, covering many square miles. Here, they saw that the main stem had put out a multitude of tendrils, whose foliage hid the underlying soil like a thick forest. Even as Gaillard had postulated, the origin of the sea-like areas on Mars was now explained.

Forty or fifty miles beyond this mass of foliation, they came to another that was even more extensive. The vessel soared to a great height, and they looked down on the realm-wide expanse of leafage. In its middle they discerned a circular node, leagues in extent, and rising like a rounded alp, from which emanated in all directions the planet-circling stems of the weird growth. Not only the size, but also certain features of the immense node, were provocative of utter dumfoundment in the beholders. It was like the head of some gargantuan cuttle-fish; and the stalks that ran away on all sides were suggestive of tentacles. And, strangest of all, the men descried in the center of the head two enormous masses, clear and lucent like water, which combined the size of lakes with the form and appearance of optic organs!

The whole plant palpitated like a breathing bosom; and the awe with which the involuntary explorers surveyed it was incommunicable by human words. All were compelled to recognise that even aside from its unparallelled proportions and habit of growth, the thing was in no sense alliable with any mundane botanic genera. And to Gaillard, as well as to others, the thought occurred that it was a sentient organism, and that the throbbing mass on which they now gazed was the brain or central ganglion of its unknown nervous system.

The vast eyes, holding the sunlight like colossal dew-drops, seemed to return their scrutiny with an unreadable and superhuman intelligence; and Gaillard was obsessed by the feeling that preternatural knowledge and wisdom bordering upon omniscience were hidden in those hyaline depths.

The vessel began to descend, and settled vertically down in a sort of valley close to the mountainous head, where the foliation of two departing stems had left a patch of clear land. It was like a forest glade, with impenetrable woods on three sides, and a high crag on the fourth. Here, for the first time during the experience of its occupants, the flier came to rest on the soil of Mars; floating gently down without jar or vibration; and almost immediately after its landing, the valves of the main port unfolded, and the metal stairway descended to the ground, in obvious readiness to disembark the human passengers.

ONE by one, some with caution and timidity, others with adventuresome eagerness, the men filed out of the vessel and started to inspect their surroundings. They found that the Martian air differed little if at all from that which they had been breathing in the space-flier; and at that hour, with the sun still pouring into the strange valley from the west, the temperature was moderately warm.

It was an outré and fantastic scene; and the details were unlike those of any tellurian landscape. Underfoot was a soft, resilient soil, like a moist loess, wholly devoid of grass, lichens, fungi or any minor plant-forms. The foliage of the mammoth vine, with horizontal fronds of a baroque type, feathery and voluminous, hung about the glade to an altitudinous height like that of ancient ever-

greens, and quivered in the windless air with the pulsation of the stems.

Close at hand there rose the vast, flesh-colored wall of the central plant-head, which sloped upward like a hill toward the hidden eyes and was no doubt deeply embedded and rooted in the Martian soil. Stepping close to the living mass, the earthmen saw that its surface was netted with millions of wrinkle-like reticulations, and was filled with great pores resembling those of animal skin beneath some extra-powerful microscope. They conducted their inspection in an awe-struck silence; and for some time no one felt able to voice the extraordinary conclusions to which most of them had now been driven.

The emotions of Gaillard were almost religious as he contemplated the scarce-imaginable amplitude of this ultra-terrene life-form, which seemed to him to exhibit attributes nearer to those of divinity than he had found in any other manifestation of the vital principle.

In it, he saw the combined apotheosis of the animal and the vegetable. The thing was so perfect and complete and allsufficing, so independent of lesser life in its world-enmeshing growth. It poured forth the sense of aeonian longevity, perhaps of immortality. And to what arcanic and cosmic consciousness might it not have attained during the cycles of its development! What supernormal senses and faculties might it not possess! What powers and potentialities beyond the achievement of more limited, more finite forms!

In a lesser degree, many of his companions were aware of similar feeling. Almost, in the presence of this portentous and sublime anomaly, they forgot the unsolved enigma of the space-vessel and their voyage across the heretofore unbridged immensities. But Stilton and his brother-conservatives were highly scandalized by the inexplicable nature of it all; and if they had been religiously minded, they would have expressed their sense of violation and outrage by saying that the monstrous plant, as well as the unexampled events in which they had taken an unwilling part, were tainted with the most grievous heresy and flagrant blasphemy.

Gresham, who had been eyeing his surroundings with a pompous and puzzled solemnity, was the first to break the silence.

"I wonder where the local Government hangs out?" he queried. "Who the hell is in power here anyway? Hey, Mr. Gaillard, you astronomers know a lot about Mars. Ain't there a U. S. Consulate somewhere in this god-forsaken hole?"

Gaillard was compelled to inform him that there was no consular service on Mars; and also that the form of government on that planet, as well as its official location, was still an open problem.

"However," he went on, "I shouldn't be surprised to learn that we are now in the presence of the sole and supreme ruler of the Martian realms."

"Huh! I don't see anyone," grunted Gresham with a troubled frown, as he surveyed the quivering masses of foliage and the alp-like head of the great plant. The import of Gaillard's observation was too far beyond his intellectual orbit.

Gaillard had been inspecting the flesh-tinted wall of the head with supreme and fascinated interest. At some distance, to one side, he perceived certain peculiar outgrowths, either shrunken or vestigial, like drooping and flaccid horns. They were large as a man's body, and might at some time have been much larger. It seemed as if the plant had put them forth for some unknown purpose, and had allowed them to wither when the purpose had been accomplished. They still retained an uncanny suggestion of semi-human parts and members, of strange appendages, half arms and half tentacles, as if they had been modelled from some exemplar of undiscovered Martian animal life.

Just below them, on the ground, Gaillard noticed a litter of queer metallic tools, with rough sheets and formless ingots of the same coppery material from which the space-flier had been constructed.

CHAPTER IV.

The Astounding Creation!

SOMEHOW, the spot suggested an abandoned ship-yard; though there were no scaffoldings such as would ordinarily be used in the building of a vessel. An odd inkling of the truth arose in Gaillard's mind as he surveyed the metal remnants, But he was too thoroughly bemused and overawed by the wonder of all that had occurred, as well as by all he had ascertained or surmised, to communicate his inferences to the other savants.

In the meanwhile the entire party had wandered about the glade, which comprised an area of several hundred yards. One of the astronomers, Philip Colton, who had made a side-line of botany, was examining the serried foliage of the super-gigantic creepers with a mingling of utmost interest and perplexity. The fronds or branches were lined with pinnate needles covered by a long, silk pubescence; and each of these needles was four feet in length by three or four inches in thickness, possibly with a hollow and tubular structure. The fronds grew in level array from the main creeper, filling the air like a horizontal forest, and reaching to the very ground in close, imbricated order.

Colton took a jack-knife from his pocket and tried to cut a section from one of the pinnate leaves. At the first touch of the keen blade, the whole frond recoiled violently beyond his reach; and then swinging back, it dealt him a tremendous blow which stretched him on the ground and hurled the knife from his fingers to a considerable distance.

If it had not been for the lesser gravity of Mars, have been severely injured by the fall. At it was, he lay bruised and breathless, staring with ludicrous surprise at the great frond, which had resumed its former position among its fellows, and now displayed no other movement than the singular trembling due to the rhythmic palpitation of the stem to which it was attached.

Colton's discomfiture had been noticed by his confréres; and all at once, as if their tongues had been loosed by this happening, a babel of discussion arose among them. It was no longer possible for anyone to doubt the animate or half-animate nature of the growth; and even the outraged and ireful Stilton, who considered that the most sacred laws of scientific probity were being violated, was driven to concede the pres-

ence of a biologic riddle not to be explained in terms of orthodox morphology.

Gaillard, who did not care to take any great part in this discussion, preferring his own thoughts and conjectures, continued to watch the trobbing growth. He stood a little apart from the others, and nearer than they to the fleshy and multiporous slope of the huge head; and all at once, as he watched, he saw the sprouting of what appeared to be a new tendril from the surface, at a distance of about four feet above the ground.

The thing grew like something in a slow moving-picture, lengthening out and swelling visibly, with a bulbous knob at the end. This knob soon became a large, faintly convoluted mass, whose outlines puzzled and tantalized Gaillard with their intimation of something he had once seen but could not now remember. There was a bizarre hint of nascent limbs and members, which soon become more definite; and then, with a sort of shock, he saw that the thing resembled a human foetus!

His involuntary exclamation of amazement drew others; and soon the whole delegation was grouped about him, watching the incredible development of the new growth with bated breath. The thing had put forth two well-formed legs, which now rested on the ground, supporting with their five-toed feet the upright body, on which the human head and arms were fully evolved, though they had not yet attained adult size.

The process continued; and simultaneously, a sort of woolly floss began to appear around the trunk, arms and legs, like the rapid spinning of some enormous cocoon. The hands and neck were left bare; but the feet were covered with a different material, which took on the appearance of green leather. When the floss thickened and darkened to an iron-grey, and assumed quite modish outlines, it became obvious that the figure was being clothed in garments such as were worn by the earth-men, probably in deference to human ideas of modesty.

The thing was unbelievable; and stranger and more incredible than all else was the resemblance which Gaillard and his companions began to note in the face of the still growing figure. Gaillard felt as if he were looking into a mirror; for in all essential details the face was his own! The garments and shoes were faithful replicas of those worn by himself; and every limb and part of this outré being, even to the finger-tips, was proportioned like his!

The scientists saw that the process of growth was apparently complete. The figure stood with shut eyes and a somewhat blank and expressionless look on its features, like that of a man who has not yet awakened from slumber. It was still attached by a thick tendril to the breathing, mountainous node; and this tendril issued from the base of the brain, like an oddly misplaced umbilical cord.

THE figure opened its eyes and stared at Gaillard with a long level, enigmatic gaze that deepened his sense of shock and stupefaction. He sustained this gaze with the weirdest feeling imaginable—the feeling that he was confronted by his *alter ego*, by a *doppelganger* in which was also the soul or intellect of some alien and vaster entity. In the regard of the cryptic eyes, he felt the same profound and sublime mystery that had looked out from the lake-sized orbs of shining dew or crystal in the plant-head.

The figure raised its right hand and seemed to beckon to him. Gaillard went slowly forward till he and his miraculous double stood face to face. Then the strange being placed its hand on his brow; and it seemed to Gaillard that a mesmeric spell was laid upon him from that moment. Almost without his own volition, for a purpose he was not yet permitted to understand, he began to speak; and the figure, imitating his every tone and cadence, repeated the words after him.

It was not till many minutes had elapsed, that Gaillard realized the true bearing and significance of this remarkable colloquy. Then, with a start of clear consciousness, he knew that he was giving the figure lessons in the English language! He was pouring forth in a fluent, uninterrupted flood the main vocabulary of the tongue, together with its grammatical rules. And somehow, by a miracle of super-intellect, all that he said was being comprehended and remembered by his interlocutor.

Hours must have gone by during this process; and the Martian sun was now dipping toward the serrate walls of foliage. Dazed and exhausted, Gaillard realized that the long lesson was over; for the being removed its hand from his brow and addressed him in scholarly, well-modulated English:

"Thank you. I have learned all that I need to know for the purposes of linguistic communication. If you and your confréres will now attend me, I shall explain all that has mystified you, and declare the reasons for which you have been brought from your own world to the shores of a foreign planet."

Like men in a dream, barely crediting the fantastic evidence of their senses and yet unable to refute or repudiate it, the earth-men listened while Gaillard's amazing double continued:

"The being through whom I speak, made in the likeness of one of your own party, is a mere special organ which I have developed so that I could communicate with you. I, the informing entity, who combine in myself the utmost genius and energy of those two divisions of life which are known to you as the plant and the animal—I, who possess the virtual omniety and immortality of a god, have had no need of articulate speech or formal language at any previous time in my existence. But since I include in myself all potentialities of evolution, together with mental powers that verge upon omniscience, I have had no difficulty whatever in acquiring this new faculty.

"It was I who constructed, with other special organs that I had put forth for this purpose, the space-flier that descended upon your planet and then returned to me bearing a delegation, most of whom, I have surmised, would represent the

scientific fraternities of mankind. The building of the flier, and its mode of control, will be made plain when I tell you that I am the master of many cosmic forces beyond the rays and energies known to tellurian savants. These forces I can draw from the air, the soil or the ether at will, or can even summon from remote stars and nebulae.

"The space-vessel was wrought from metal which I had integrated from molecules floating at random through the atmosphere; and I used the solar rays in concentrated form to create the temperature at which these metals were fused into a single sheet. The power used in propelling and guiding the vessel is a sort of super-electric energy whose exact nature I shall not elucidate, other than to say that it is associated with the basic force of gravity, and also with certain radiant properties of the interstellar ether not detectible by any instruments which you possess. I established in the flier the gravitation of Mars, and supplied it with Martian air and water, and also with chemically created food-stuffs, in order to accustom you during your voyage to the conditions that prevail on Mars.

"I am, as you may have already surmised, the sole inhabitant of this world. I could multiply myself if necessary; but so far, for reasons which you will soon apprehend, I have not felt that this would be desirable. Being complete and perfect in myself, I have had no need of companionship with other entities; and long ago, for my own comfort and security, I was compelled to extirpate certain rival plant-forms, and also certain animals who resembled slightly the mankind of your world; and who, in the course of their evolution, were becoming troublesome and even dangerous to me.

"With my two great eyes, which possess an optic magnifying power beyond that of your strongest telescopes, I have studied Earth and the other planets during the Martian nights, and have learned much regarding the conditions that exist upon each. The life of your world, your history, and the state of your civilization have been in many ways an open book to me; and I have also formed an accurate idea of the geological, faunal and floral phenomena of your globe. I understand your imperfections, your social injustice and maladjustment, and the manifold disease and misery to which you are liable, owing to the dissonant, multiple entities into which the expression of your life-principle has been subdivided.

"FROM all such evils and errors, I am exempt. I have attained to well-night absolute knowledge and masterdom; and there is no longer anything in the universe for me to fear, aside from the inevitable process of dehydration and dessication which Mars is slowly undergoing, like all other aging planets.

"This process I am unable to retard, except in a limited and partial manner; and I have already been compelled to tap the artesian waters of the planet in many places. I could live upon sunlight and air alone; but water is necessary to maintain the alimental properties of the atmosphere; and without it, my immortality would fail in the course of time; my giant stems would shrink and shrivel; and my vast, innumerable leaves would grow sere for want of the vital humor.

"Your world is still young, with superabundant seas and streams and a moisture-laden air. You have more than is requisite of the element which I lack; and I have brought you here, as representative members of mankind, to propose an exchange which cannot be anything but beneficial to you as well as to myself.

"In return for a modicum of the water of your world, I will offer you the secrets of eternal life and infinite energy, and will teach you to overcome your social imperfections and to master wholly your planetary environment. Because of my great size, my stems and tendrils which girdle the Martian equator and reach even to the poles, it would be impossible for me to leave my natal world; but I will teach you how to colonize the other planets and explore the universe beyond. For these various ends, I suggest the making of an intermundane treaty and a permanent alliance between myself and the peoples of Earth.

"Consider well what I offer you; for the opportunity is without example or parallel. In relation to men, I am like a god in comparison with insects. The benefits which I can confer upon you are inestimable; and in return I ask only that you establish on Earth, under my instruction, certain transmitting stations using a superpotent wave-length, by means of which the essential elements of sea-water, minus the undesirable saline properties, can be teleported to Mars. The amount thus abstracted will make little or no difference in your tide-levels or in the humidity of your air; but for me, it will mean an assurance of everlasting life."

The figure ended its peroration, and stood regarding the earth-men in polite and somewhat inscrutable silence. It wait for their answer.

As might have been expected, the emotions with which the delegation-members had heard this singular address were far from unanimous in their tenor. All the men were beyond mere surprise or astonishment, for miracle had been piled upon miracle till their brains were benumbed with wonder; and they had reached the point where they took the creation of a human figure and its endowment with human utterance wholly for granted. But the proposal made by the plant-entity through its man-like organ was another matter, and it played upon varying chords in the minds of the scientists, the reporters, the Mayor, and the Chief of Police.

Gaillard, who felt himself wholly in accord with this proposition, and more and more thoroughly *en rapport* with the Martian entity, wished to accede at once and to pledge his own support and that of his fellows to a furthering of the suggested treaty and plan of exchange. He was forced to point out to the Martian that the delegation, even if single-minded in its consent, was not empowered to represent the peoples of Earth in forming the projected alliance; that the most it could do would be to lay the offer before

the Government of the U. S. and of other terrestrial realms.

Half the scientists, after some deliberation, announced themselves as being in favor of the plan and willing to promote it to the utmost of their ability. The three reporters were also willing to do the same; and they promised, perhaps rashly, that the influence of the world-press would be added to that of the renowned savants.

Stilton and the other dogmatists of the party, however, were emphatically and even rapidly opposed, and declined to consider the Martian's offer for an instant. Any treaty or alliance of the sort, they maintained, would be highly undesirable and improper. It would never do for the nations of Earth to involve themselves in an entanglement of such questionable nature, or to hold commerce of any sort with a being such as the plant-monster, which had no rightful biologic status. It was unthinkable that orthodox and sound-minded scientists should lend their advocacy to anything so dubious. They felt too that there was a savor of deception and trickery about the whole business; and at any rate it was too irregular to be countenanced, or even to be considered with anything but reprehension.

The schism among the savants was rendered final by a hot argument, in which Stilton roundly denounced Gaillard and the other pro-Martians as virtual traitors to humanity, and intellectual Bolshevists whose ideas were dangerous to the integrity of human thought. Gresham and Polson were on the side of mental law and order, being professionally conservative; and thus the party was about evenly divided between those who favored accepting the Martian's offer, and those who spurned it with more or less suspicion and indignation.

CHAPTER V.

The Return to Earth

DURING the course of this vehement dispute, the sun had fallen behind the high ramparts of foliage, and an icy chill, such as might well be looked for in a semi-desolate world with attenuating air, had already touched the pale rose twilight. The scientists began to shiver; and their thoughts were distracted from the problem they had been debating by the physical discomfort of which they were increasingly conscious.

They heard the coice of the strange manikin in the dusk:

"I can offer you a choice of shelters for the night and also for the duration of your stay on Mars. You will find the space-flier well-lighted and warmed, with all the facilities which you may require. Also, I can offer you another hospitality. Look beneath my foliage, a little to your right, where I am now preparing a shelter no less commodious and comfortable than the vessel—a shelter which will help to give you an idea of my varied powers and potentialities."

The earth-men saw that the flier was brilliantly illuminated, pouring out a gorgeous amethystine radiance from its violet ports. Then, beneath the foliage close at hand, they perceived another and stranger luminosity which seemed to be emitted, like some sort of radio-active or noctilucent glow, by the great leaves themselves.

Even where they were standing, they felt a balmy warmth that began to temper the frigid air; and stepping toward the source of these phenomena, they found that the crowded leaves had lifted and arched themselves into a roomy alcove. The ground beneath was lined with a fabric-like substance of soft hues, deep and elastic underfoot, like a fine mattress. Ewers filled with liquids and platters of food-stuffs were disposed on low tables; and the air in the alcove was gentle as that of the spring night in a subtropic land.

Gaillard and the other pro Martians, filled with profound awe and wonder, were ready to avail themselves at once of the shelter of this thaumaturgic hostelry. But the anti-Martians would have none of it, regarding it as the workmanship of the devil. Suffering keenly from the cold, with chattering teeth and shivering limbs, they promenaded the open glade for some time, and at last were driven to seek the hospitable port of the space-flier, thinking it the lesser of two evils by some queer twist of logic.

The others, after eating and drinking from the mysteriously provided tables, laid themselves down on the mattress-like fabrics. They found themselves greatly refreshed by the liquid in the ewers, which was not water but some kind of roseate, aromatic wine. The food, a literal manna, was more agreeably flavored than that of which they had partaken during their voyage in the space-vessel.

In the nerve-wrought and highly excited state that was consequent upon their experiences, none of them had expected to sleep. The unfamiliar air, the altered gravity, the unknown radiations of the exotic soul, as well as their unprecendented journey and the miraculous discoveries and revelations of the day, were all profoundly upsetting and conductive to a severe disequilibration of mind and body.

However, Gaillard and his companions fell into a deep and dreamless slumber as soon as they had laid themselves down. Perhaps the liquid and solid refreshments which they had taken may have conduced to this; or perhaps there was some narcotic or mesmeric influence in the air, falling from the vast leaves or proceeding from the brain of the plant-lord.

The anti-Martians did not fare so well in this respect, and their slumber was restless and broken. Most of them had touched the proffered viands in the space-flier very sparingly; and Stilton, in particular, had refused to eat or drink at all. Doubtless, too, their antagonistic frame of mind was such as to make them more resistant to the hypnotic power of the plant, if such were being exerted. At any rate, they did not share in the benefits conferred upon the others.

A little before dawn, when Mars was still shrouded in crepuscular gloom but slightly lightened by the two small moons, Phobos and Deimos, Stilton arose from the soft couch on which he had tossed in night-long torment, and

began to experiment once more, undeterred by his previous failure and discomfiture, with the mechanical controls of the vessel.

To his surprise, he found that the odd-shaped keys wereon longer resistant to his fingers. He could move and arrange them at will; and he soon discovered the principle of their working and was able to leviate and steer the flier.

His confréres had now joined him, summoned by his shout of triumph. All were wide-awake, and jubilant with the wild hope of escaping from Mars and the jurisdiction of the plant-monster. Thrilling with this hope, and fearing every moment that the Martian would re-assert its esoteric control of the mechanism, they rose unhindered from the darkling glade to the alien skies and headed toward the brilliant green orb of Earth, descried among the unfamiliar constellations.

Looking back, they saw the vast eyes of the Martian watching them weirdly from the gloom, like pools of clear and bluish phosphorescence; and they shuddered with the dread of being recalled and re-captured. But, for some inscrutable reason, they were permitted to maintain their earthward course without interference.

HOWEVER, the voyage was fraught with a certain amount of disaster; and Stilton's clumsy pilotage hardly formed an ample substitute for the half-divine knowledge and skill of the Martian. More than once, the vessel collided with meteors; none of which, fortunately, were heavy enough to penetrate its hull. And when, after many hours, they approached the earth, Stilton failed to secure the proper degree of deceleration. The flier fell with terrible precipitancy and was saved from destruction only by dropping into the South Atlantic. The jarred mechanism was rendered unworkable by the fall, and most of the occupants were severely bruised and stunned.

After floating at random for days, the coppery bulk was sighted by a northward-going liner and was towed to port in Lisbon. Here the scientists abandoned it, and made their way back to America, after detailing their adventures to representatives of the world-press, and issuing a solemn warning to all the world-peoples against the subversive designs and infamous proposals of the ultra-planetary monster.

The sensation created by their return and by the news they brought was tremendous. A tide of profound alarm and panic, due in part to the immemorial human aversion toward the unknown, swept immediately upon the nations; and immense, formless, exaggerated fears were bred like shadowy hydras in the dark minds of men.

Stilton and his fellow-conservatives continued to foster these fears, and to create with their pronouncements a globe-wide wave of anti-Martian prejudice, of blind opposition and dogmatic animosity. They enlisted on their side as many of the scientific fraternity as they could; that is to say, all those who were minded like themselves, as well as others overawed or subdued by the pressure of authority. They sought also, with much success, to marshal the political powers of the world in a strong league that would ensure the repudiation of any further offers of alliance from the Martian.

In all this gathering of inimical forces, this regimenting of earthly conservation and insularity and ignorance, the religious factor, as was inevitable, soon asserted itself. The claim to divine knowledge and power made by the Martian, was seized upon by all the various mundane hierarchies, by Christian and Muhammadan, by Buddhist and Parsee and Voodoist alike, as forming as supremely heinous blasphemy. The impiety of such claims, and the menace of a non-anthropomorphic god and type of worship that might be introduced on earth, could not be tolerated for a moment. Khalif and Pope, lama and imaum, parson and mahatma, all made common cause against this ultra-terrestrial invader.

Also, the reigning political powers felt that there might be something Bolshevistic behind the offer of the Martian to promote an Utopian state of society on earth. And the financial, commercial, and manufacturing interests likewise thought that it might imply a threat to their welfare or stability. In short, every branch of human life and activity was well represented in the anti-Martian movement.

In the interim, on Mars, Gaillard and his companions had awakened from their sleep to find that the luminous glow of the arching leaves had given place to the ardent gold of morn. They discovered that they could venture forth with comfort from the alcove; for the air of the glade without had grown swiftly warm beneath the rising sun.

Even before they had noticed the absence of the coppery flier, they were apprised of its departure by the man-organ of the great plant. This being, unlike its human prototypes, was exempt from fatigue; and it had remained standing or reclining all night against the fleshy wall to which it was attached. It now addressed the earth-men thus:

"For reasons of my own, I have made no attempt to prevent the flight of your companions, who, with their blindly hostile attitude, would be worse than useless to me, and whose presence could only hinder the *rapport* which should exist between you and myself. They will reach the earth, and will try to warn its peoples against me and to poison their minds against my beneficent offer. Such an outcome, alas, cannot be avoided, even if I were to bring them back to Mars or divert their flight by means of my control and send them speeding forever through the void beyond the worlds. I perceive that there is much ignorance and dogmatism and blind self-interest to be overcome, before the excelling light which I proffer can illumine the darkness of earthly minds.

"After I have kept you here for a few days, and have instructed you thoroughly in the secrets of my transcedent wisdom, and have imbued you with surprising powers that will serve to demonstrate my omnivalent superiority to the nations of Earth, I shall send you back to Earth as my ambassadors, and though you will meet with much opposition from your fellows, my cause will prevail in the end, beneath the infallible support of truth and science."

GAILLARD and the others received this communication as well well as the many that followed it, with supreme respect and semi-religious reverence. More and more they became convinced that they stood in the presence of a higher and ampler entity than man; that the intellect which thus discoursed to them through the medium of a human form was well-nigh inexhaustible in its range and depth, and possessed many characteristics of infinitude and more than one attribute of deity.

Agnostic though most of them were by nature or training, they began to accord a certain worship to this amazing plant-lord; and they listened with an attitude of complete submission if not of abjection, to the out-pourings of cycle-gathered lore, and immortal secrets of cosmic law and life and energy, in which the great being proceeded to instruct them.

The illumination thus accorded them was both simple and esoteric. The plant-lord began by dwelling at some length upon the monistic nature of all phenomena, of matter, light, color, sound, electricity, gravity, and all other forms of irradiation, as well as time and space; which, it said, were only the various perceptual manifestations of a single underlying principle or substance.

The listeners were then taught the evocation and control, by quite rudimentary chemical media, of many forces and rates of energy that had hitherto, lain beyond the detection of human senses or instruments. They were taught also the terrific power obtainable by refracting with certain sensitized elements the ultra-violet and infra-red rays of the spectrum; which, in a highly concentrated form, could be used for the disintegration and re-building of the molecules of matter.

They learned how to make engines that emitted beams of destruction and transmutation; and also learned how to tap the illimitable and multifarious energies of the interspatial ether; and how to employ these unknown beams, more potent even than the so-called "cosmic rays," in the renewal of human tissues and the conquest of disease and old age.

Simultaneously with this tuition, the plant-lord carried on the building of a new space-car, in which the earth-men were to return to their own planet and preach the Martian evangel. The construction of this car, whose plates and girders seemed to materialize out of the void air before their very gaze, was a practical lesson in the use of arcanic natural forces. Atoms that would form the requisite alloys were brought together from space by the play of invisible magnetic beams, were fused by concentrated solar heat in a specially refractive zone of atmosphere, and were then moulded into the desired form as readily as the bottle that shapes itself from the pipe of the glass-blower.

Equipped with this new knowledge and potential masterdom, with a cargo of astounding mechanisms and devices made for their use by the plant-lord, the pro-Martians finally embarked on their earthward voyage.

CHAPTER VI.

The Martian's Power

A WEEK after the abduction of the thirty-five earth-men from the stadium at Berkeley, the space-car containing the Martian's proselytes landed at noon in this same stadium. Beneath the infinitely skilful and easy control of the far-off plant-being, it came down without accident, lightly as a bird; and as soon as the news of its arrival had spread, it was surrounded by a great throng, in which the motives of hostility and curiosity were almost equally paramount.

Through the denunciation of the dogmatists led by Stilton, the savants and the three reporters beneath the leadership of Gaillard had been internationally outlawed before their arrival. It was expected that they would return sooner or later through the machinations of the plant-lord; and a special ruling that forbade them to land on terrene soil, under penalty of imprisonment, had been made by all the Governments.

Ignorant of this, and ignorant also of how wide-spread and virulent was the prejudice against them, they opened the vessel's port and stood in readiness to emerge.

Gaillard, going first, paused at the head of the metal stairway, and something seemed to arrest him as he looked down on the milling faces of the mob that had gathered with incredible swiftness. He saw enmity, fear, hatred, suspicion, in many of these faces; and in others a gaping and zany-like inquisitiveness, such as might be shown before the freaks of some travelling circus. A small corps of policemen, elbowing and thrusting the rabble aside with officious rudeness, was pushing toward the front; and cries of derision and hatred, gathering by two and threes and uniting to a rough roar, were now hurled at the occupants of the car.

"Damn the pro-Martians! Down with the dirty traitors! Hang the — — — dogs!"

An overripe tomato, large and dripping, sailed toward Gaillard and splashed on the steps at his feet. Hisses and hoots and cat-calls added to the roaring bedlam, but above it all, he and his comrades heard a quiet voice that spoke within the car; the voice of the Martian, borne across inestimable miles of ether:

"Beware, and defer your landing. Resign yourselves to my guidance, and all will be well."

Gaillard stepped back as he heard this minatory voice, and the valvular port closed quickly behind the folded stairs, just as the policemen who had come to arrest the vessel's occupants broke from the forefront of the throng.

Peering out on those hateful faces, Gaillard and his brother-savants beheld an astounding manifestation of the Martian's power. A wall of violet flame, descending from the remote heavens to the ground, seemed to intervene between the car and the crowd, and the policemen, bruised and breathless but uninjured, were hurled backward as if by a great wave.

This flame, whose color changed to blue and green and yellow and scarlet like a sort of aurora, played for hours about the vessel and ren-

dered it impossible for anyone to approach. Retreating to a respectful distance, awe-struck and terrified, the crowd looked on in silence; and the police waited in vain for a chance to fulfill their commission.

After awhile, the flame became white and misty, and upon it, as upon the bosom of a cloud, a bizarre and mirage-like scene was imprinted, visible alike to the occupants of the car and the throne without. This scene was the Martian landscape in which the central brain of the plant-lord was located; and the crowd gasped with astonishment as it met the gaze of the enormous telescopic eyes, and saw the unending stems and league-wide masses of sempervirent foliage.

Other scenes and demonstrations followed, all of which were calculated to impress upon the throng the wonder-working powers and marvellous faculties of this remote being.

Pictures that illustrated the historic life of the Martian, as well as the various arcanic natural energies subject to its dominion, followed each other in rapid succession. The purpose of the desired alliance with Earth, and the benefits which would accrue thereby to humanity, were also depicted. The divine benignity and wisdom of this puissant being, its superior organic nature, and its vital and scientific supremacy, were made plain to the dullest observer.

Many of those who had come to scoff, or had been prepared to receive the pro-Martians and their evangel with scorn and hate and violence, became converted to the alien cause forthwith by these sublime demonstrations.

However, the more dogmatic scientists, the true "die-hards" as represented by Godfrey Stilton, maintained an adamantine obstructionism, in which they were supported by the officers of law and government, as well as by the presbyters of the various religions. The world-wide dissidence of opinion which soon resulted, became the cause of many civil wars or revolutions, and, in one or two cases, ended in actual warfare between nations.

NUMEROUS efforts were made to apprehend or destroy the Martian space-car, which, beneath the guidance of its ultra-planetary master, peared in many localities all over the world, descending suddenly from the stratosphere to perform incredible scientific miracles before the eyes of astonished multitudes. In all quarters of the globe, the mirage-like pictures were flashed on the screen of cloudy fire, and more and more people went over to the new cause.

Bombing planes pursued the vessel and sought to drop their deadly freight upon it, but without success; for whenever the car was endangered, the auroral flames intervened, deflecting and hurling back the exploded bombs, often to the detriment of their launchers.

Gaillard and his confreres, with leonine boldness, emerged many times from the car, to display before crowds or selected bodies of savants the marvellous inventions and chemical thaumaturgies with which they had been endowed by the Martian. Everywhere the police sought to arrest them, maddened mobs endeavored to do them violence, armed regiments tried to surround them and cut them off from the car. But with an adroitness that seemed no less than supernatural, they contrived always to elude capture; and often they discomfited their pursuers by astonishing displays or evocations of esoteric force, temporarily paralyzing the civic officers with unseen rays, or creating about themselves a defensive zone of intolerable heat or trans-arctic cold.

In spite of all these myriad demonstrations, however, the citadels of human ignorance and insularity remained impregnable in many places.

Deeply alarmed by this ultra-terrene menace to their stability, the governments and religions of Earth, as well as the more conservative scientific elements, rallied their resources in a most heroic and determined effort to stem the incursion. Men of all ages, everywhere, were conscripted for service in the national armies; and even women and children were equipped with the deadliest weapons of the age for use against the pro-Martians, who, with their wives and families, were classed as infamous renegades to be hunted down and killed without ceremony like dangerous beasts.

The internecine warfare that ensued was the most terrible in human history. Class became divided against class and family against family. New and more lethal gases than any heretofore employed, were devised by chemists, and whole cities or territories were smothered beneath their agonizing pall. Others were blown into skyward-flying fragments by single charges of super-potent explosives; and war was carried on by planes, by rocket-ships, by submarine, by dreadnaughts, by tanks, by every vehicle and engine of death or destruction that the homicidal ingenuity of man had yet created.

The pro-Martians, who had won several victories at first, were now gravely outnumbered; and the tide of battle began to turn against them. Scattered in many lands, they found themselves unable to unite and organize their forces to the same degree as those of their official opponents. Though Gaillard and his devoted confréres went everywhere in the space-vessel, aiding and abetting the radicals, and instructing them in the use of new weapons and cosmic energies, the party suffered great reverses through the sheer brute preponderance of its foes. More and more it became split up into small bands, hunted and harried, and driven to seek refuge in the wilder or less explored sections of the earth.

In North America, however, a large army of the scientific rebels, whose families had been compelled to join them, contrived to hold the antagonists at bay for awhile. Surrounded at last, and faced by overwhelming odds, this army was on the verge of a crushing defeat.

Gaillard, hovering above the black, voluminous clouds of the battle, in which poisonous gases mingled with the fumes of high explosives, felt for the first time the encroachment of actual despair. It seemed to him, and also to his companions, that the Martian had abandoned them, disgusted perhaps with the bestial horror of it

all and the hateful, purblind narrowness and fanatic nescience of mankind.

Then, through the smoke-smothered air, a fleet of coppery-golden cars descended, to land on the battle-front among the Martian adherents. There were thousands of these cars; and from all the entrance-ports, which had opened simultaneously, there issued the voice of the planet-lord, summoning its supporters and bidding them enter the vessels.

Saved from annihilation by this act of Martian providence, the entire army obeyed the command; and as soon as the last man, woman and child had gone aboard, the ports closed again, and the fleet of space-cars, wheeling in graceful and derisive spirals above the heads of the baffled conservatives, soared from the battle-clouds like a flock of reddish-golden birds and vanished in the noon-tide heavens, led by the car containing Gaillard's party.

At the same time, in all portions of the world where the little bands of heroic radicals had been cut off and threatened with capture or destruction, other cars descended in like manner and carried away the pro-Martians and their families even to the last unit. These vessels joined the main fleet in mid-space; and then all continued their course beneath the mysterious piloting of the plant-lord, flying at super-cosmic velocity through the star-surrounded gulf.

CONTRARY to the anticipations of the mundane exiles, the vessels were not drawn toward Mars; and it soon became evident that their objective was the planet Venus. The voice of the Martian, speaking athwart the eternal ether, made the following announcement:

"In my infinite wisdom, my supreme forepre-science, I have removed you from the hopeless struggle to establish on Earth the sovereign light and truth which I offer. You alone I have found worthy; and the moiety of mankind, who have refused salvation with hatred and contumely, preferring the natal darkness of death and disease and ignorance in which they were born, must be left henceforward to their inevitable fate.

"You, as my loyal and well-trusted servants, I am sending forth to colonize beneath my tutelage a great continent on the planet Venus, and to found amid the primal exuberance of this new world a super-scientific nation."

The fleet soon approached Venus, and circled the equator for a great distance in the steam-thick atmosphere, through which nothing could be descried other than a hot and over-fuming ocean, close to the boiling-point, which seemed to cover the entire planet. Here, beneath the never-setting sun, intolerable temperatures prevailed everywhere, such as would have parboiled the flesh of a human being exposed directly to the semi-aqueous air. Suffering even in their insulated cars from this terrific heat, the exiles wondered how they were to exist in such a world.

At least, however, their destination came in view and their doubts were resolved. Nearing the nightward side of Venus which is never exposed to daylight, in a latitude where the sun slanted far behind them as over arctic realms, they beheld through thinning vapors an immense tract of land, the sole continent amid the planetary sea. This continent was covered by rich jungles, containing a flora and fauna similar to those of pre-glacial eras on the earth. Calamites and cycads and fern-plants of unbelievable luxuriance revealed themselves to the earth-men; and they saw everywhere the great, brainless reptiles, the megalosaurs, plesiosaurs, labyrinthodons and pterodactyls of Jurassic times.

Beneath the instruction of the Martian, before landing, they slew these reptiles, incinerating them completely with infra-red beams, so that not even their carcasses would remain to taint the air with putrefactive effluvia. When the whole continent had been cleared of its noxious life, the cars descended; and emerging, the colonists found themselves in a terrain of unequalled fertility, whose very soil seemed to pulsate with primordial vigors, and whose air was rich with ozone and oxygen and nitrogen.

Here the temperature, though still sub-tropic, was agreeable and balmy; and through the use of protective fabrics provided by the Martian, the earth-men soon accustomed themselves to the eternal sunlight and intense ultra-violet radiation. With the super-knowledge at their disposal, they were able to combat the unknown, highly pernicious bacteria peculiar to Venus, and even to exterminate such bacteria in the course of time. They became the lords of a salubrious climate, dowered with four mild and equable seasons by the slight annual rotation of the planet; but having one eternal day, like the mythic Isles of the Blest beneath a low and undeparting sun.

Beneath the leadership of Gaillard, who remained in close *rapport* and continual communication with the plant-lord, the great forests were cleared in many places. Cities of lofty and ethereal architecture, lovely as those of some transstellar Eden, builded by the use of force-beams, began to rear their graceful turrets and majestic cumuli of domes above the gigantic calamites and ferns.

Through the labors of the terrene exiles, a truly Utopian nation was established, giving allegiance to the plant-lord as to some tutelary deity; a nation devoted to cosmic progress, to scientific knowledge, to spiritual tolerance and freedom; a happy, law-abiding nation, blest with millenial longevity, and exempt from sorrow and disease and error.

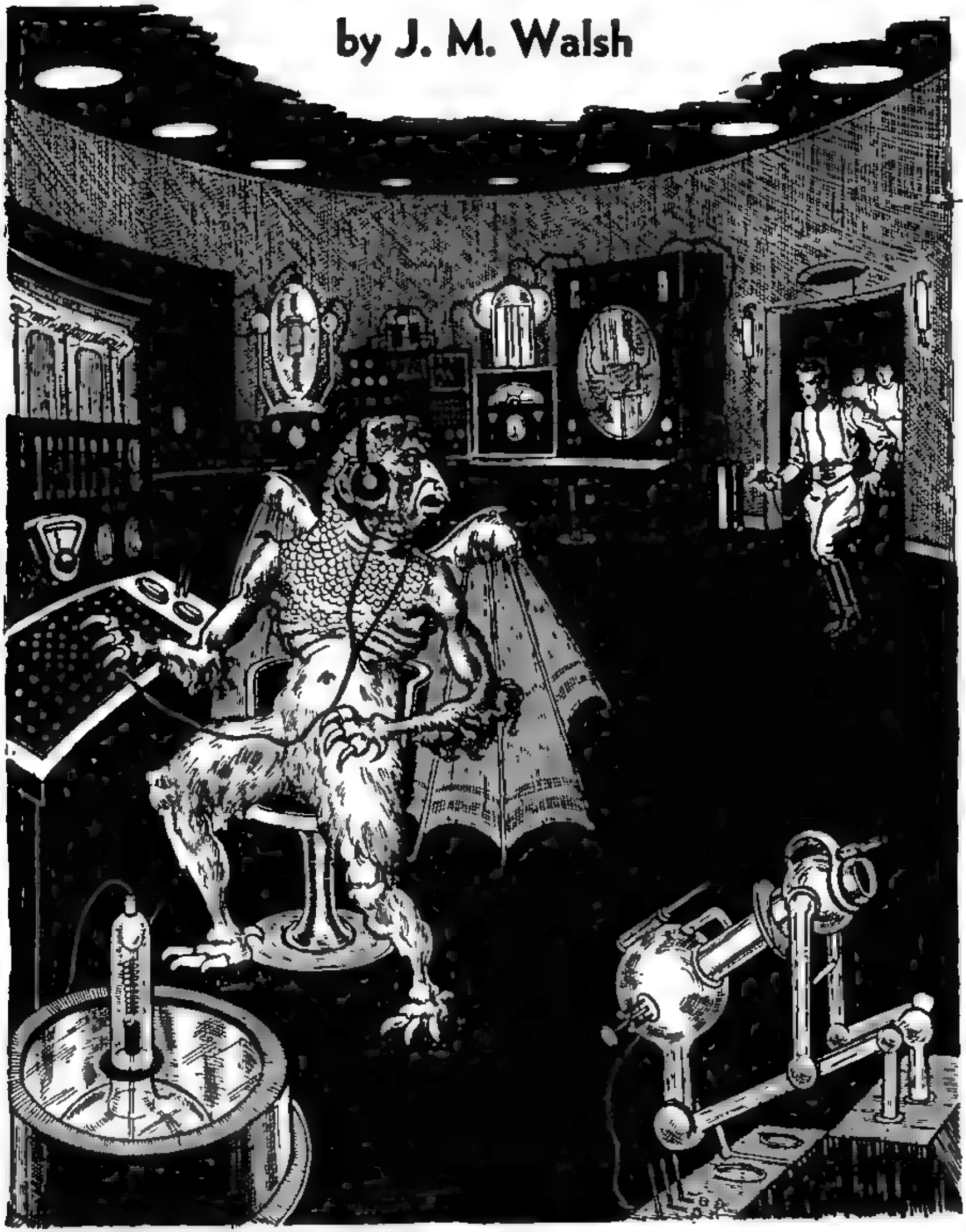
Here, too, on the shores of the Venusian sea, were builded the great transmitters that sent through interplanetary space, in ceaseless waves of electronic radiation, the water required to replenish the dehydrated air and soil of Mars, and thus to ensure for the plant-being a perpetuity of god-like existence.

In the meanwhile, on earth, unknown to Gaillard and his fellow-exiles, who had made no effort to communicate with the abandoned world, an amazing thing had occurred; a final proof of the virtual omnipotence and all-inclusive sapience of the Martian.

(*Concluded on Page* 136)

The Struggle for Pallas

by J. M. Walsh



(Illustration by Marchioni)

I stopped dead. A figure was seated at the receiving set. It was a thing utterly grotesque and horrible.

The Struggle for Pallas

by the author of "Vandals of the Void"

THE E.22—my own command—had arrived back on Earth on one of its all too infrequent visits only a day or so previously, and as the ship was due for re-fitting I was looking forward to a reasonably long leave with my family. We of the Interplanetary Guard—that autocratic body which is responsible for the smooth running of traffic and the maintenance of law and order in the void between the worlds—find our vacations all too few and far between. Needless to say when they come we endeavor to enjoy them to the utmost, for ours is a hazardous life, even in these days when peace has descended on the planets and the forces of disruption no longer threaten to put an end to our existence.

But the weeks of slippered ease I had pictured were not to materialise. The Gods of the Spaceways had ruled otherwise.

The first intimation I had of visitors was when I heard the faint warning blare of a private aero-car's siren as the machine prepared to descend on the landing stage above our roof, and some queer instinct warned me that the call was for us rather than for any other inhabitants of our block.

Jansca and I heard the sound together, and she looked at me with a vague disquiet in her eyes. She always fears these midnight visits, for usually they mean hurried journeys, risk and trouble for all concerned.

"I wonder who it is," she said, as though she fancied I might have half an idea already. As a matter of fact I had, though I was loth to put it into words.

We were not kept long in doubt. A minute or so later the entrance bell twinkled, and a face glowed in the vision plate set on the table beside the televox.

"Harran!" I ejaculated. "Come in," and I pressed the button that would give him admittance. Presently I heard his footsteps come clattering down—the elevator was not working at this hour of the night—and he entered the room, peeling off his gloves as he came.

"Good evening, Mrs. Sanders. How do, Jack?" he greeted us. "Phew, but it's a cold night up above."

"Cold?" I said. One could hardly imagine that in this cozy, cheerful room. "Come over near the radiator, and get yourself warm."

He came. "Yes it's cold enough up above," he went on, "and likely to remain so if the weather people are to be believed. All the same I'm afraid, Jack, that I've got hot work for you."

"What is it?" I asked in my normal voice, though I'm afraid my heart sank.

"Something's gone wrong out on the asteroid belt," he returned, with a side glance at Jansca. "We've been getting all sorts of unintelligible signals through. Gibberish, no less. We can't make head or tail of it. We've called up both Pallas and Vesta, used Earth English, Tlananian (Martian) and the Open Code, but all we can get in reply is a jumble of strange sounds. But you can understand better what I'm driving at if you hear them yourself. I've had a disk made and brought it along with me. Got your talk - machine handy?"

I drew it towards us, and he extracted a thin disk from its case in his inner pocket, fixed it on the machine, and started the works. We listened in silence, awed a little, I must admit, by the medley of sound that filled the room. There was a certain odd, pulsing rhythm in it that somehow made me feel it was the work of sentient creatures. Yet, on the other hand, it sounded like the product of a madman or an ape. The odd thing about it was that

J. M. WALSH

TO introduce this story—sequel to the marvelous "Vandals of the Void"—we can do no better than to quote the introduction of the author.

"Almost from the first," he says, "the early interplanetary expeditions proved conclusively the error of those who held that life was possible only on our own particular planet.

"We know now that life is the most persistent thing in the Universe. True, the dominant intelligence on other worlds is not always that to which we are accustomed. Often it is oddly, even repulsively alien to us of the Inner Planets, where, conditions being much the same, life has evolved upon somewhat similar lines.

"But it is life, and with the recognition of that we have reached a more cautious stage. We no longer dare assert that any planetary body is unfit for habitation. All we can say in the case of those we have not yet thoroughly explored, is that they may not be capable of supporting the existence of beings similar to ourselves."

Mr. Walsh has stated his thesis here, and in the exciting story, he brings his ideas to us forcibly.

from first to last none of us there in the room had the least doubt that it was a language—or dialect; call it what you will—of some sort. It certainly was no mere fortuitous jumble of sounds.

I shivered as the disk was finished and the sounds ceased. A sense of chill foreboding crept over me.

"Well, what do you think of it?" Harran asked, looking from me to Jansca and then back again.

"I don't quite know what to make of it," I said, truthfully enough. "What do you think?"

Harran spread his hands in a curiously alien gesture. "That's what we want you to find out," he said. "And, for a start, I'm going to forestall your objections by telling you that it comes from Pallas—there's no doubt of that—and similar sounds have been picked up from Vesta. I'm afraid we'll have to ask you to take off in E.22 at the earliest possible moment, and make investigation. We can't have communication interrupted in this way, and if anything has really gone wrong on Pallas it may have its repercussions throughout the planets unless we get it righted at once."

"Why not send one of the Martian guardships?" I queried. "Mars is nearer at present."

"Pallas isn't Martian territory," Harran pointed out. "You must remember we've an Earth settlement there, of very touchy people at that. We don't want any interplanetary complications on our hands at present, and you know as well as I do that the colonists on Pallas are just the sort to make them if they get half a chance."

THERE was sound sense in that. I knew all and more than he could tell me about the inhabitants of that particular asteroid. Reversionists, we called them, trouble-makers we knew them to be. They were men and women who, on our own planet, had spent their time plotting and planning to bring back the bad old days of national boundaries and national hates that had been ended, we hoped for ever, when the World Federation came into being. Anachronisms, some thought them, who believed that mankind's highest function was to war against whomsoever differed from them in creed, color or language. And since this queer old Earth of ours had suffered enough from them in the past, and we had no mind to see the bad old conditions brought back again, we had collected all who would not sign a bond to cease their subversive activities and had marooned them on Pallas. Mars had done the same with her irreconcilables, establishing them on Vesta. Only lucky Venus, of the three Inner Planets, had no need to do any such thing. The Venusians from time immemorial have been of one race, one nation with one language.

And now it seemed that on the Earth colony, scarcely yet a year old, trouble had already broken out. Perhaps, having no one else to quarrel with, they had started bickering amongst themselves. Though that did not explain the strange sounds Harran claimed to have recorded. Clearly it was a matter that demanded investigation. Only, on the point of whether I should do it myself, I did not see eye to eye with my chief.

Once before a vacation of mine had been interrupted, though out of that had come the greatest fortune of my life. I could not hope this time for any similar good luck. I was not minded to try*

"Why not," I said, "send one of the Guardships from a patrol out in space? Surely there is at least one that could make Pallas in half the time that we can from here."

"There are several," Harran returned with a twinkle in his eye, "but the point is, Jack, that they may not be fully equipped to meet any emergency. Some of them have been out nearly the year and their supplies must be running low. On the other hand we can put off the overhaul of E.22 and have her back in commission ready to take to space inside twenty-four hours. She must go, though, of course, your second can take her out if you're afraid of going."

That clinched it. His last words flicked me on the raw as he meant them to do.

"It's not reluctance in the sense you seem to think," I snapped. "Only, I've just started vacation"—I glanced at Jansca—"and it's hard to have to take to space again at almost a moment's notice when I'd been looking forward to weeks of ease."

"I know, I know," he said softly, "but, Jack, Mrs. Sanders, both of you, I promise double time when this business is over and done with. On top of that, you may make contact with the men of Mars. If our friends on Pallas have been making any trouble with them, you're the man to smooth it over. No doubt you'll find a Martian man no harder to manage than you do a lady of that same world."

He smiled happily at Jansca—once a Dirka and a native of the Red Planet itself—and she smiled in return at the compliment, clumsy as it was. She read, too, the unspoken thought behind the words, and answered it as he wished it answered.

"Yes, he can go, Mr. Harran," she said. "I at least will put no obstacles in his way. That he comes back safely is all I ask."

Twenty four hours later, exactly at midnight, E.22 lifted from the slips, and headed out into space. Of the voyage itself there is little to record. We encountered no adventures and met with no mishaps on the way. Since the night I had seen Harran no further word had come from any of the inhabited asteroids. Communication of all sorts had ceased entirely and abruptly after that medley of strange sounds had come through.

Frankly I did not know what to make of it. Had the Reversionists risen against our Guards and seized the power-stations we would at least have expected word of it to have got through, some urgent call for help, perhaps. Or failing that, the Reversionists themselves were the type of people whom one would quite expect to send some messages of defiance. They would be only too eager to do this, and would probably welcome

*See "VANDALS OF THE VOID"—Summer 1931 Wonder Stories Quarterly

the opportunity of asserting, as they termed it, their independence. But nothing of the sort had occurred.

Of course we speculated amongst ourselves, some saying one thing, and some another. But none of us in our wildest dreams suspected what had actually happened.

We came at last to Pallas, a world in miniature, in some ways a replica of our own Earth. Fifty years ago it would have been declared uninhabitable, a bleak and barren waste with an atmosphere too tenuous to support life as we knew it. Today, after less than a year of intensive settlement, it is capable of maintaining a reasonably large population.

The Cohorts of the Damned

SOME, if not most of the credit, for the transformation, must go to the Martian scientists. The conditions prevalent on their own overcrowded and not very productive planet had sharpened their initiative, so that early on they had learned to assist Nature and on occasion spur her on to further efforts. Because of the magnitude of the task on their home planet they had met with only partial success, but here on the smaller bulks of the asteroids they had been able to achieve their aims with greater ease. Ceres, they had turned into a veritable garden, Vesta had become barely habitable, and Pallas in a condition somewhere between the two. However, it is not my business to linger over these achievements here, except in so far as mention of them and the slight climatic changes they involved are necessary to make my story intelligible.

For some time we had had the surface of the asteroid under observation, but our electro-telescope failed to reveal anything of an interesting or disturbing nature. Knowing the advantage of a surprise arrival I presently altered our course so that we would approach the asteroid on the night side.

I suppose I should have realized from the first that if one thing had gone wrong almost everything was sure to be in much the same state. But I'll own that it was with a sense of shock I discovered that the beams from the light pylons, which under the interplanetary traffic code must be kept alight all night in all circumstances, were not showing. Neither were there any lights visible in the few small cities Pallas boasted. I think it was then it dawned on me that the situation might be far more serious than any of us, even Harran, had imagined.

No lights meant no power, and no power could only mean that the members of the Guard who had been left in charge were no longer at their posts. But the Guards stay until they are relieved or death overtakes them, and since the latter was seemingly the only possible explanation, it followed logically that they had been killed. But in that case—supposing the Reversionists had been the aggressors—why were there no lights showing in the cities? They would hardly be foolish enough to imagine that by keeping their homes in darkness they could escape retribution.

Idle speculation. An hour's investigation was worth a day.

We circled Pallas, spiralling in ever-narrowing circles that gradually brought us closer to the surface of the asteroid until at length we grounded gently on a grassy upland just as the day was breaking in that part of the world. Not knowing what we might have to face, I had air tests made before I dared allow the ports to be opened. The tests, however, showed nothing abnormal in the air, so cautiously we opened the exit ports.

The cold air whipped in, air colder than we were used to on most of Earth, and thin enough to our ways of thinking. Yet there was a bracing quality in it that made up for a lot of what it lacked in other ways.

We stepped out, walking gingerly because of the slighter gravity pull of this tiny world. Everything seemed quiet and peaceful. The Guard's power-station on the cliffs behind us—perhaps half a mile away—showed no sign of life. A queer thing, that. They must have seen us land. One would have thought they would have been frantically eager to meet and greet us.

It was at that precise moment, while the little landing party I had detailed stood indecisive, waiting for my orders, that someone caught sight of the running man. More correctly he was leaping, coming towards us with great strides, bounding yards at a time in a way that showed he was not wearing the gravity adjustment shoes. An Earthman. A Guard also, for the sky-blue uniform, stained and torn though it was, was plainly visible in the wan sunlight of the early morning.

Some of us ran towards him, and he fell sobbing into our midst. One of our men recognized him. "It's Bahn," he said. "I know him. I was on E.7 with him."

But Bahn did not recognise his erstwhile comrade, did not know any of us, even as Guards. All he seemed to know, if indeed he knew anything, was that he was among friends. Whether his mind was utterly unhinged we could not say, but for the time at least he behaved like an man bereft of his senses.

His uniform, as I have said, was stained and torn. It seemed to have been ripped by something sharp, like claws. More than that. The piping of his jacket, facings that had once been white, were dyed with blood, blood scarcely dry, but whether his own or not we could not say. At least he did not appear to be wounded. Later we found that save for some scratches he was unharmed. But the oddest thing of all was the curiously fetid odor that seemed to cling to him.

We plied him with questions, but could get no sensible answer. Only a vacant stare with a hint of terror behind it, and an incoherent muttering. Boland, the man who claimed his acquaintance, tried hard to strike a glimmer of reason from him, but could get nothing in reply but a stream of meaningless babble in which two phrases alone seemed to have any intelligible connection with each other. Something about "The Lost Ones", and then another phrase that kept constantly recurring. "The Cohorts of The Damned."

It was not an unfamiliar phrase to me. I recognized it as one from an early twentieth century poet, still popular enough with men of action, though in this instance I failed to see its precise application. Unless it was some contemptuous reference to the Reversionists, though that I did not think at all likely.

"WE can't do anything with him. It's hopeless trying to make sense of his words yet," I said. "Boland, you know him best. You should have most hope of success with him. Take him to the sick bay and look after him. Pity we didn't bring a doctor with us, but if you look up the emergency medicine chest you may find something to treat his particular case."

"I don't fancy it's a doctor he needs, sir," Boland answered, but he was on his way with his charge before I could ask him what he meant.

Clearly the Guards' power-station should be our first port of call. Bahn had come from there, running from a terror that might after all exist only in his own mind. But in case it did not, it behooves us to go cautiously.

I gave my second in command careful and detailed instructions, and arranged so that the ray projectors from the ship should cover our advance—and our retreat, too, if that became necessary.

We had brought the ship as near to the cliffs as was consistent with safety and the ability to take off in a hurry. But on this small world the intervening distance mattered little even to men on foot. Inside ten minutes we were scaling the path up to the heights. At first there seemed no sign of anything wrong save that the place was silent and deserted, and doors that should have been shut were swinging idly on their hinges.

Then, too, I missed the familiar hum of the power-generating machinery that supplied the asteroid with light and heat. It struck me then that the bite in the air and the thinness of the atmosphere was no doubt due to that very fact. If the machinery were not started again in quick time we might lose all we had gained in the year and have Pallas slipping back into its former bare, bleak, desolate state.

From the top of the cliffs we could see across the plain to the neighboring city of Clion, a place of some five thousand inhabitants, and the chief town of Pallas. Its roof tops glittered in the sun, but save for the fact that it had a curiously deserted appearance we could at first see nothing out of the ordinary. Then what I had taken to be a shimmer in the air resolved itself into a wisp of smoke. It thickened as we watched, seemed curiously shot with tongues of flame.

But that could wait. The Guards' quarters were our immediate concern.

We entered into the main room, where communication between the planets was maintained.

I was leading, but I stopped dead on the threshold with a stifled exclamation, and an odd feeling of horror constricting my throat. A figure was seated at the receiving set, head-phones over its ears, and fingers straying over the bank of keys in front of it.

For the moment, so utterly unprepared was I for what I saw, I imagined it must have been a Guard. It was not. It was a thing so utterly grotesque and horrible that I can scarcely find words to describe it. It was a biped of sorts, though it seemed to be covered with some kind of bark-like scales. Its feet ended in claws; its fingers were hook-like.

One of our men exclaimed at the sight. The creature must have had remarkably quick hearing, for it turned in a flash, baleful green eyes stabbing at us like heat-rays. We recoiled in horror. It was the gargoyle of the medieval world come to life, only a hundred times more horrible and more intelligent-looking than anything the mind of man had ever conceived.

I raised my pencil ray tube, and pressed the button. The tiny ray stabbed out and impinged on the creature's breast. There came a little puff of smoke and a queer fetid odor, but beyond that the thing seemed unharmed. Its next move was made so quickly that it caught us almost unprepared.

Of a sudden it seemed to launch itself from the sitting position it occupied. A flapping of leathery wings filled the air, and sharp claws grazed my uplifted wrist. Slight as was the scratch it made, the wound burnt like liquid fire, and it had the queer effect of temporarily paralyzing the muscles of my injured arm.

And at that confusion broke out. One of the men screamed horribly, and on top of that there came a queer insane jabbering of sound that in itself had power to fill us with a chill horror. I recognized it instantly. Once heard it could never be forgotten. The same sounds as these had come from the disk on which Harran had recorded the calls from Pallas.

In some way I could not understand, others of the things had joined the fray. Perhaps they had been sleeping in dark corners of the room, or had poured through the other doors at the cry from their mate. I do not know. The air was too filled with noise, with the searing blasts of pencil ray-tubes, and acrid puffs of smoke for one to see anything at all distinctly.

The Coming of the Things

I DID the only thing possible, yelled for the men to get out in the open where at least we could see and would have the protection of the ship's immensely stronger armament. We streamed through the door, the flying things flapping heavily after us. For some reason they did not seem to be able to move so swiftly out, as they had indoors, and that I imagine was our salvation. Perhaps the difference in temperature between the comparatively warm room, and the cold air of the open affected them adversely. Again I say I do not know. I can only record things as they happened.

We drew away, scampering down the cliff path, the things flopping after us. Even then they seemed to be gaining on us by degrees. My arm hurt intolerably. I stumbled and almost fell. One of the men tried to help me, but I shook him off. "Look after yourself," I cried. "Make the ship!"

I had time to say no more. The Cohorts of the Damned—fitting name indeed for them—were thickening the sky now. There seemed no end to their numbers, and later I learnt that they were joined about this time by reinforcements streaming from the burning city of Clion. Half a dozen of them—it might readily have been a hundred from the way it felt—dropped down on me and the man who had come to my assistance. I fell underneath. Perhaps it was that that saved me. But my companion screamed like a man in torment, and then I think I must have fainted, partly from the effects of the scratch on my arm and partly from the nauseous stench that filled the air.

I came back to myself abruptly, aware I was no longer on the ground. In a little I began to understand what had happened. My second—Glenn Vance—had seen the conflict from the ship, had immediately lifted and come to our rescue, only just in time. Barely half a dozen of the little party I had led out had survived. I myself lay on the ground and at first they thought I was dead. The things must have thought so, too, otherwise how can I explain why they left me untouched?

The **E.22's** armament finally disposed of the horde of attackers, yet Vance told me they seemed almost impervious to the heat rays, and it was only when the disintegrator jets were turned on them that we were able to clean them up.

"How long I have been like this?"I asked.

The better part of twenty-four hours, he told me. He had other news, too. Bahn, the man we had rescued, had recovered sufficiently to be able to give some sort of an account of himself. The toxic effect of the many scratches he had received—they seemed temporarily to unhinge the mind—had now worn off.

His story began with the discovery, some six earth months previously, of a number of leathery-looking eggs in one of the fields the electric plows were tilling. No one worried very much about them, even when in the artificially induced warmth of the asteroid they rapidly hatched out. Some new queer animal, a survival from prehistoric times, was what the Guards thought; and so used were they to the myriad forms of grotesque life that our discoveries are bringing to light in the Universe that they considered they had merely added another to the swiftly growing list of odd but harmless monstrosities. The Reversionists, however, developed a genuine dislike of the things, and it was from them that the name "Cohorts of the Damned" originally came.

Still there was no one to tell the inhabitants of Pallas that for once a newly-discovered form of life held in itself the possible seeds of destruction of the human colony on the asteroid. The things grew marvellously quickly, and their intelligence apparently increased with their physical growth. In a little over three months from the time of their hatching they were full grown. First they became a nuisance, then a source of irritation, but the actual menace of them did not appear until it was too late to combat it.

Incredible as it may seem to Earthmen who are used to looking on man as the dominant species, the fact seems to be now fully established that these things were quite our equals in intelligence. Given the time and opportunity they might readily have built up a civilization of sorts on Pallas. Certain of our scientists who have since given attention to the matter are of the opinion that the eggs from which these creatures were hatched may have been millions of years old, that perhaps they dated back to the days when Pallas and the other asteroids formed part of the planet that seems once to have swung in the orbit between Mars and Jupiter.

Imagine if you like an oviparous race, capable of reaching certain heights of intelligence and civilization, a race perhaps that once peopled this long-exploded planet and then dominated all other forms of life. Whether the survival of the eggs through the countless succeeding ages were the result of accident or design, probably we shall never know. I myself lean to the latter theory. I have seen the things and fought with them, and I know how quickly they managed to discover the uses of our machines and operate themselves.

Given another month or so of delay and we might have arrived to find Pallas a hostile world, with an alien race firmly entrenched behind the barriers we ourselves had built up. But I am straying . . . .

The Destruction of Pharon

THE blow when it came, fell so suddenly that it took everyone by surprise. The Guards were overpowered and killed, and in many cases their own weapons were turned on them. From the numbers of the creatures that appeared, Bahn thinks that more of them than we guessed had been reared in secret in the caverns with which the cliffs of Pallas were honeycombed, and their existence was not suspected until the hordes were let loose to swamp us. I can well credit it.

Bahn alone of the Guards was spared. In some way the creatures must have learned that he was the one person best qualified to teach them the secrets of our power apparatus that they had not yet been able to discover for themselves. They made it plain by some sign language that that was the sole condition of his continued existence. Since there was nothing else for it, he did as he was bade. He watched his chance in the hope that he might be able to get some message through to Earth, but evidently they suspected his intention, for the opportunity never came. He was surprised to learn that we had succeeded in recording any transmission at all. He seemed to think that the sounds we received were sent more by accident than of set design. Myself I am not so sure of that.

One day he was surprised to notice that the needle of the instrument which recorded the near approach of a space-ship was moving in the wonted manner. The creatures themselves apparently did not understand what this implied, and the chances were that they were not able then to conceive of physical communication between worlds. At any rate, they displayed no

interest at all in the queer behaviour of the needle on this particular dial. Bahn waited, however, until the instrument showed we had landed in the vicinity. He would have liked to have learned more about us first, but he dared not use the television apparatus.

His one thought was that he must get to us at once. The knowledge that we were near lent him the courage of desperation. Seizing the moment when he was left alone in the room with only one of the creatures awake to watch him he suddenly sprang up, swung the heavy metal chair in which he had been sitting above his head and brought it down across the face of the other. He could not hope to kill it thus, but he succeeded in temporarily disabling it. Blood spurted from its mouth and face over him, and it groped blindly after him.

He did not wait, but flung open the door, and rushed into a press of the creatures before he could pull himself up. The very impetus of his rush carried him through, but in the process he was scratched, clawed and bitten and apparently enough of the toxic element lurking in their claws and fangs to temporarily madden a dozen men was injected into his blood. The miracle of it is that he recovered so quickly. What happened after his mad dash from the room he could not say. The next he knew was when he came back to normal to find himself in our company.

"And the rest of Pallas?" I asked.

He knew nothing of that. Whether the Reversionists had been wiped out completely and the creatures had succeeded in establishing their dominion over part of the surface or not he could not say. Vance, however, was able to tell me that Clion had gone up in smoke. Seemingly there was not an Earthman left alive in the city, and since it was hopeless to attempt to combat the fire, he had not tried. He was now awaiting my orders as to what should be done next.

"There's only one thing to do," I said. "The chances are that the things are in possession of the greater part of Pallas. It's our business to find out. If they are, the sooner we clean them up the better."

"It's going to be a task," Vance said.

"Quite likely. One that may even seem impossible. But we've orders to right whatever was wrong here, and we can't think of leaving until we've done the best of which we're capable. We will start cruising at once."

Vance saluted and left me. Not a bad fellow, though too prone to see difficulties before they arrived. He was at his best as a man of action. He could take his orders and carry them out well.

Slowly we circled the asteroid, its swift rotation seemingly bringing day and night in rapid succession. Of the eight cities of Pallas we found six, including Clion, had been destroyed, most probably by accident. All of them had been burned, and since, as we learned, the creatures did not understand fire and even had a pronounced horror of it, it hardly seemed likely that they could have set the cities alight of deliberate intention. At the seventh city, Pharon, we found the inhabitants augmented by refugees from the farm lands. They had congregated into some of the big public buildings and barred and barricaded themselves against the assaults of the creatures, and so far had managed to survive. We learned from them, however, that an attack in force was being prepared, and that they expected it would be merely a matter of days before it took place. A spy they had sent out in a one-man surface flyer had cruised over Gonda, the city we had not yet visited and had picked up some items of interest.

THE most significant was that a small space-ship, apparently a private craft of Martian design, had landed near Gonda in a crippled condition. The things had swarmed over it, killed the crew, and taken possession of the machine. The spy had been a witness of the tragedy and, he declared, would have taken a chance and blown the whole crowd out of existence had he had any weapons. He said this with something of sullenness in his tone, and I guessed he was smarting under a sense of injustice.

I myself have never been one of those who would deny the Reversionists weapons with which to protect themselves. True, there was always the possibility that they might fall to fighting amongst themselves or even turn their weapons on us, but in this Universe of ours one must take chances occasionally.

Since Gonda looked like the focal point of this festering wound which seemed like to poison the asteroid, we headed direct for that city. We came within sight of it somewhere about the mid-day hour and all of us were immediately struck by the contrast it presented with the other seven cities. It was a hive of activity, no less. No part of it had been destroyed. The machines were working; the local power station was maintaining an equilibrium of temperature for many miles around. Had it not been for the heavy flopping gargoyle-like figures flitting about amongst the roof-tops and the sight of similar shapes moving about the city streets, I should have fancied that Gonda was still in possession of our own folk. A number of small surface-flyers—so called to differentiate them from the space-ships—were circling above the city.

The creatures had made good use of their time, apparently. In so short a space they had familiarized themselves with the mechanism of so many of our machines and mastered their intricacies.

The people of Pharon had informed us that no Earth-men were left in the city and that, at any rate, simplified our task. Mankind and the creatures, it was evident, could not exist side by side. One or the other must go, and it was the knowledge of that that steeled me to the course of wholesale destruction that I believed was the only course we could take. It was sad to have to destroy the result of so much labor, but only by razing the city to the ground could our purpose be accomplished.

Our heat-ray projectors were turned on the city, and presently the buildings began to melt and run. But long before that stage had been reached, the creatures had become aware of our

presence, and quite a number of the small flyers ascended to attack us. They were like gnats, small, vicious, but not very harmful. Nevertheless they could make quite a nuisance of themselves, and since we did not know what new weapons they might possess I thought it best to place ourselves beyond their reach.

Ordinarily I would have had no hesitation in wiping them out at once with our disintegrator rays, but the trouble with the D-ray is that used on a wholesale scale it is capable of doing wholesale damage. The power necessary to wipe that mosquito fleet entirely out of existence might well blast the whole of the countryside beneath us and render the greater part of Pallas sterile for a generation to come. On the other hand picking each separate machine off with a heat-ray was a tedious task.

I took the only possible alternative, lifted the **E.22** out beyond the limits of atmosphere, and increasing our power continued the work of destruction from there. The thing itself would not have happened had we been at all alert. Our excuse must be that our whole attention was fixed on the world beneath us.

The first intimation that anything was wrong came when of a sudden we became conscious of a lowered air pressure, a considerable difficulty in breathing, and a feeling of weakness and nausea began to assail us. Vance grasped the situation quicker than I did; perhaps some of the toxin lingering still in my blood rendered my brain sluggish.

He sprang to the alarm-bells, and rang the signal through to close all the air-tight bulkheads. These acted automatically.

"Quick," he called, "someone turn on the oxygen containers."

One of the men obeyed. There came a hissing sound, and the air grew breathable again.

"What is it?" I queried.

"We've been holed somewhere, I should imagine," he said. "I'm ordering the repair gang to go over the ship in their space-suits and see where the damage is. Perhaps we've hit a small meterorite. One no larger than a pea would be big enough to puncture us."

The damage was located quickly enough. Something—meteorite or not—had gone through the nose of the craft, putting the locators out of action, and making a hole large enough to cause considerable trouble had we not discovered it so soon.

I went along to inspect it, and found Vance staring at it. It was not a clean-drilled hole such as one would expect a meteorite to have made. It was jagged at the edges, and when I looked for a corresponding hole across the compartment I could find none. It was queer, I thought. I said as much to Vance.

He nodded. "It looks more like an explosion," he said. "As though something in the nature of an explosive bullet had burst on impact. You know the kind of thing. Some of the Martian Guard-ships use them—sort of space torpedoes—in conjunction with an anti-gravitational beam."

That was much what it looked like, but the suggestion merely seemed to remove us further from a satisfactory explanation. There was no possibility of such a thing being used against us here.

I had no sooner formed the thought in my mind that it occurred to me that now the hole had been plugged the air seemed to be getting uncomfortably warm. And at that exact instant I realized that the wall was glowing and sizzling with heat.

"A heat-ray!" I cried. "Someone has trained one on us."

"That blamed Martian space-ship they told us about at Pharon," Vance said. "We're up against a bigger thing than we thought, if those creatures can take a space-ship, a thing they've never seen before, repair it and master its mechanism so quickly. Of course with our locators damaged we couldn't have picked it up."

Without a word to each other, but actuated by the same impulse, we raced back to the observation room. The operator there was trying frantically to get in touch with us. He had just picked up a space-ship on the vision-plate. It answered the description of the captured Martian craft and, as though to remove all doubt, the operator informed us that it was training its beams on us.

"Gods!" Vance exclaimed." If they've mastered its mechanism in full we're done for!"

He gave me one look. I read what was in his mind, and I nodded.

"Go ahead," I said. "It's the only thing to do."

He turned to the bank of control keys, and pressed one down. There was no sound, no immediate answering movement of any sort, but a mment later the space-ship seemed abruptly to burst into a blinding glow, as though a cloud of dust had suddenly begun to sparkle. It spread out from its center in all directions, getting thinner and thinner until it vanished altogether in the ultimate reaches of space.

We held on to whatever substantial thing was handy while **E.22** rocked and kicked, then she came under control again and we headed down towards Pallas and the city of Gonda. Our task was surprisingly easy after that. Perhaps the creatures had centred their hopes on our destruction by the captured space-ship, and its spectacular end had taken the fight out of them. At least I know that they offered little further resistance. Some of them we even managed to capture, though only a couple of them survived the long hop to Earth.

But it was weeks before we felt satisfied that we had cleared Pallas of the last of menace, and even now we cannot say with any degree of certainty that the danger has been entirely removed. However, we know its nature now, and we cannot be taken by surprise again.

The surviving specimens we brought to Earth with us are being studied by our scientists, and an attempt is being made to establish a common ground of communication with them. But their language, if so one can call it, has so far defied all efforts at translation, and they show an inability to pick up our tongue.

But there are other methods of exchanging ideas, and they will be tried one by one until at

st some measure of success is reached. When at has been done we hope to learn something f their past history, and perhaps be able to row a searching light on the last days of that anet of which some think the present asteroids are only the disrupted fragments. When, if ever, this stage of communication has been reached, the result, providing it is of sufficient interest, will almost certainly be recorded in due course.

THE END.

IMPORTANT ANNOUNCEMENT!

A YEAR ago, with the November, 1930 issue, the format of WONDER STORIES monthly was reduced to a smaller size.

We believed at that time that the change to smaller size would be welcomed by the majority of our readers and we continued printing the magazine at this size for a year.

It appears now, however that the majority of our readers have not looked kindly on the change, and during the year, we were flooded with many thousands of letters, (the numbers, of late, have been increasing) urging that we should return to the larger size.

Most of the readers argued that a magazine of such educational value as ours should not be placed on a par with the "pulp" magazines of a more sensational type. A large percentage of our readers seem to think that the larger size with smooth edges was more dignified, and gave a better appearance to the magazine, than the smaller size with its rough edges.

Heeding these letters, and the overwhelming preference of our readers, we are going back to the larger size, which we formerly printed, with the next issue.

The October 1931 issue, therefore, is the last that will appear in the small magazine size. Look among the large-size magazines for the next issue!

A PLEASANT SURPRISE!

The November issue of WONDER STORIES will also give you a pleasant surprise—something that many readers have been asking for, but which was not possible until now to give you.

You will not only be surprised, but we are certain that you will also be highly delighted, with another important change which will also be incorporated in the November issue.

Inasmuch as there will be a large demand for the next issue, we advise you to place your order with your newsdealer at once, so you will not be disappointed.

The Publishers.

For The NEW LARGE SIZE NOVEMBER ISSUE

we offer

a sequel to the triumph of Clark Ashton Smith, acclaimed so by our readers. In

"Beyond the Singing Flame"

Mr. Smith carries on the adventures of his explorers in that strangest of dimensions. As Mr. Smith says himself, "The description of the Inner Dimension is a daring flight; and I have almost set myself the impossible task that Dante attempted in his account of Paradise." *You will be thrilled by this story!*

P. Schuyler Miller, also adds a new brilliant story to his chain of successes. In

"Tetrahedra From Space"

we have the most vivid, gripping account of a life fantastic, yet scientifically possible; and its conflict with our own civilization. This is no mere "strange form of life" story but a masterpiece of description and action in which you feel as a chill through your blood the awful power of the Tetrahedra.

The returns on the contest, to find an ending for Jack Williamson's "Twelve Hours To Live," were so unexpectedly large that the editors have been swamped. From the letters we have read, our readers, especially the younger ones, have shown as astounding ingenuity in working out the problem of the two chestts. By a rough count several thousand letters have been received. The results, with the winning letters, will be published in the November issue.

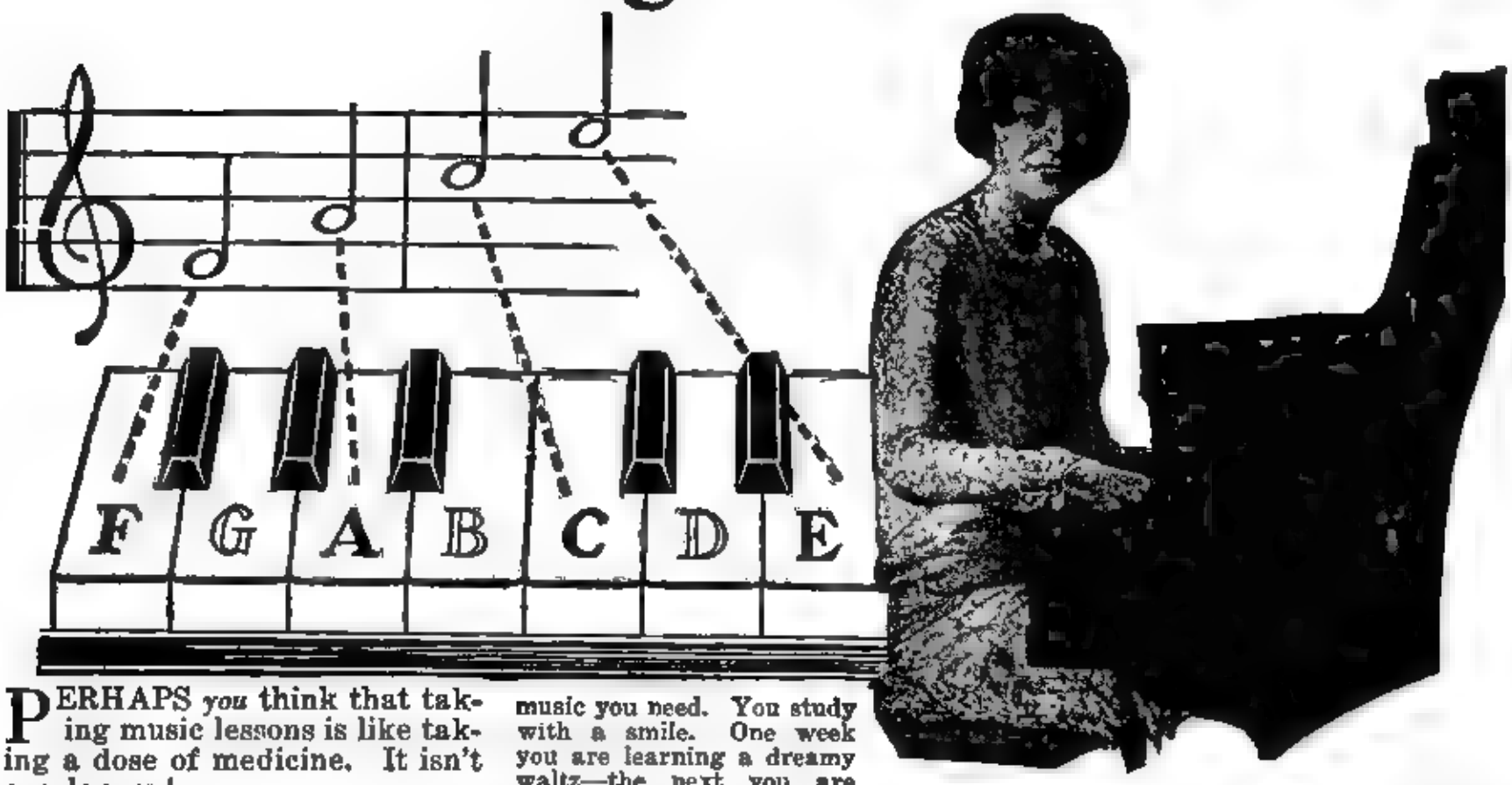
The final installment of the Schachner and Zagat sensation,

"Exiles of the Moon"

will treat you to a whirl of fast-moving events on two worlds. The Workers have struck and scored. But the Aristocrats will not tamely submit to the loss of their power. The most terrible part of the conflict is yet to come. The outcome is in doubt! But in this keen insight of our authors into the future, you will find in this last installment not only a breathless finish, but a moral that must set you thinking!

AND OTHER STORIES IN THE NEW LARGE SIZE
NOVEMBER WONDER STORIES ON SALE OCTOBER 1

To those who think Learning Music is hard-



PERHAPS *you* think that taking music lessons is like taking a dose of medicine. It isn't any longer!

As far as you're concerned, the old days of long practice hours with their horrid scales, hard-work exercises, and expensive personal teacher fees are over and done with.

You have no excuses—no alibis whatsoever for not making your start toward musical good times *now*!

For, through a method that removes the boredom and extravagance from music lessons, you can now learn to play your favorite instrument entirely at home—without a private teacher—in half the usual time—at a fraction of the usual cost.

Just imagine . . a method that has made the reading and playing of music so downright simple that you don't have to know one note from another to begin.

Do you wonder that this remarkable way of learning music has already been vouched for by over 600,000 people in all parts of the world?

Easy As Can Be!

The lessons come to you by mail from the famous U. S. School of Music. They consist of complete printed instructions, diagrams and all the music you need. You study with a smile. One week you are learning a dreamy waltz—the next you are mastering a stirring march. As the lessons continue they prove easier and easier. For instead of just scales you are always learning to play by *actual* notes the classic favorites and the latest syncopation that formerly you only *listened* to.

And you're never in hot water. First, you are *told* how a thing is done. Then a picture *shows* you how, then you do it yourself and *hear* it. No private teacher could make it clearer or easier.

Soon when your friends say "please play something" you can surprise and entertain them with pleasing melodies on your favorite instrument. You'll find yourself in the spotlight—popular everywhere. Life at last will have its silver lining and lonely hours will vanish as you play the "blues" away.

New Friends—Better Times

If you're tired of doing the heavy looking-on at parties—if always listening to others play has almost spoiled the pleasure of music for you—if you've been envious because they could entertain their friends and family—if learning music has always been one of those never-to-come-true dreams, let the time-proven and tested home-study method of the U. S. School of Music come to your rescue.

Don't be afraid to begin your lessons at once. Over 600,000 people learned to play this modern way — and found it easy as A-B-C. Forget that old-fashioned idea that you need special "talent." Just read the list of instruments in the panel, decide which one you want to play, and the U .S. School will do the rest. And bear in mind no matter which instrument you choose, the cost in each case will average the same—just a few cents a day. No matter whether you are a mere beginner or already a good performer, you will be interested in learning about this new and wonderful method.

Pick Your Instrument

Piano	Violin
Organ	Clarinet
Ukulele	Flute
Cornet	Saxophone
Trombone	Harp
Piccolo	Mandolin
Guitar	'Cello

Hawaiian Steel Guitar
Sight Singing
Piano Accordion
Italian and German Accordion
Voice and Speech Culture
Harmony & Composition
Drums and Traps
Automatic Finger Control
Banjo (Plectrum, 5-String or Tenor)
Juniors' Piano Course

Send for Our Free Book and Demonstration Lesson

Our wonderful illustrated Free Book and our Free Demonstration Lesson explain all about this remarkable method. They prove just how anyone can learn to play his favorite instrument *by note* in almost no time and for just a fraction of what old, slow methods cost. The booklet will also tell you all about the amazing new *Automatic Finger Control.*

Read the list of instruments to the left, decide which you want to play, and the U. S. School of Music will do the rest. Act NOW. Clip and mail this coupon today, and the fascinating Free Book and Free Demonstration Lesson will be sent to you at once. No obligation. Instruments supplied when needed, cash or credit. U. S. School of Music, 409 Brunswick Bldg., New York City.

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409 Brunswick Bldg., New York City

Please send me your free book, "Music Lessons in Your Own Home," with introduction by Dr. Frank Crane, Free Demonstration Lesson and particulars of your easy payment plan. I am interested in the following course

_____ Have you instrument? _____

Name _____

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City _____ State _____

The Planet Entity

(*Continued from Page* 125)

In the great vale of Kashmeer, in Northern India, there descended one day from the clear heavens a mile-long seed, flashing like a huge meteor, and terrifying the superstitious Asian peoples, who saw in its fall the portent of some tremendous disaster. The seed rooted itself in this valley; and before its true nature had been ascertained, the supposed meteorite began to sprout and send forth on all sides a multitude of mammoth tendrils which burst immediately into leaf. It covered both the southward plains and the eternal snows and rock of the Hindu Kush and Himalayas with their gigantic verdure.

Soon the Afghan mountaineers could hear the explosion of its leaf-buds amid their passes, echoing like distant thunder; and, at the same time, it rushed like a Juggernaut upon Central India. Spreading in all directions, and growing with the speed of express-trains, the tendrils of the mighty vine proceeded to enmesh the Asian realms. Overshadowing vales, peaks, hills, plateaus, deserts, cities and sea-boards with its titan leaves, it invaded Europe and Africa; and then, bridging Bering Straits, it entered North America and ran southward, ramifying on all sides till the whole continent, and also South America even to Tierra de Fuego, had been buried beneath the masses of insuperable foliage.

Frantic efforts to stay the progress of the plant were made by armies with bombs and cannon, with lethal sprays and gases; but all in vain. Everywhere humanity was smothered beneath the vast leaves, like those of some omnipresent upas, which emitted a stupefying and narcotic odor that conferred upon all who inhaled it a swift euthanasia.

Soon the plant had netted the whole globe; for the seas offered little or no barrier to its full-grown stems and tendrils. When the process of growth was complete, the anti-Martian moiety of the human race had joined the uncouth monsters of pre-historic time in that limbo of oblivion to which all superseded and outdated genera have gone. But, through the divine clemency of the plant-lord, the final death that overtook the "die-hards" was no less easy than irresistible.

Stilton and a few of his associates contrived to evade the general doom for awhile by fleeing in a rocket-ship to the Antarctic plateau. Here, as they were congratulating themselves on their escape, they saw far-off on the horizon the rearing of the swift stems, beneath whose foliage the ice and snow appeared to melt away in rushing torrents. These torrents soon became a diluvial sea, in which the last dogmatists were drowned. Only in this way did they elude the euthanasia of the great leaves, which had overtaken all their fellows.

THE END.

The Derelict of Space

(*Continued from Page* 107)

He found himself sitting on the deck by the small outer door-porte. Mink was dead. Soon the others would be dead. All of them, slowly dying. . . . That was a good thing for Mink, dying so quickly. He hadn't lived to know that his brains were scattered like that and his skull like an eggshell. . . . It was nice to die all at once. . . . From inside he could hear the whimpering Gerald Vane. "I don't want to die! Deely, please. . . ." But he was going to die.

Brown thought again how much better it would be to die all at once. He found that the door-porte lever was beside him. His hand had accidentally touched it; his fingers were gripping it. The air was going out so slowly with this door-porte closed. It was awful to die, just a little at a time. . . .

Brown's hand very slowly pulled at the lever. The door slid partly open. The rush of wind as the deck-air went out seemed like a graceful summer breeze. And then a gale. . . . It blew so strong it took your breath away. . . . He had to grasp a support with all his might to keep from being blown into interstellar space.

Brown's head slumped down on his updrawn knees. . . . He was dead. . . .

Deely gazed across the lounge toward the closed corridor door. "Going fast now. Listen to it whine. Something outside must have broken."

Vane was collapsed in a chair. Whimpering and then he began screaming. "Stop it! Don't let it go! You fool—you murderer—don't let it go! I don't want to die. . . ."

Thomasson thought how foolish it was to rail like that. Vane was fighting, choking. He was a pitiable object—the man who had once been strong, handsome, so virile-looking—so romantic. He was a pitiable object now. No, not pitiable—no one should pity Gerald Vane. He looked stricken of all his manhood now. Or perhaps he had never had any manhood. . . .

Under the gaze of Hilda's calm eyes, and that faint queer smile on her white lips, Gerald Vane screamed his protests—choking and gasping in the rarefied air until suddenly he had fainted. . . .

"Hilda—" On the couch Deely himself was gasping now. "Hilda—in a moment—we'll be gone—"

"I know—" She tried to rise to her feet, but the room must have whirled before her. "Ronald! Where—are you? I—I can't seem to see you."

"I just thought, Hilda—now at the last—you might have something to say to me. If you—have something. . . ."

She wavered, with hands outstretched, across the few feet that separated them. And on the couch his eager arms caught her.

"Hilda—my wife again. . . ."

"I want to say—if only you could forgive me, Ronald. . . ."

"I do! I do, Hilda. . . ."

The roaring in Thomasson's head seemed to drown their murmured words. The triangle of metal with its concave, low ceiling was pale and wan with starlight. But it roared—as Thomas-

(*Concluded on Page* 138)

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The Derelict of Space

(*Concluded from Page* 136)

son's head was roaring. And the door was straining with the outgoing, whining sucking wind. . . .

Every breath was an effort. Trying to breathe, and there was nothing to breathe. Vane's dead body seemed so hideous, over there in the chair. But on the couch Deely and Hilda were lying together, wrapped in each other's arms. They were tranquil, peaceful in death.

It was all swiftly blurring before Thomasson's fading senses. Roaring and blurring, and then it slid away into a great and everlasting silence. . . .

Thomasson had fallen forward over his little table and was dead. . . .

And thus we found them, with the air gone so that their frozen bodies were preserved through the years and the final tableau of this drama, or comedy, or tragedy—call it what you will—was clear before us.

We did not attempt to take the Deely time-ship back to earth; but left it there, with its six passengers untouched. As young Dorrance turned us back and set our course toward Apollo and the earth, I was at a rear turret window. The little disc-like vehicle, with its small tower bravely set on top, seemed hung askew. Little Ship of Doom. I watched until it was lost among the blazing stars.

THE END

The Asteroid of Death

(*Continued from Page* 83)

nounced. "What's the game? Do you suppose he's throwing us off the track by switching to the little flyer—or is he still on the liner?"

The answer to the puzzle suddenly smote me with startling clarity. I remembered Hulan's promise to kill Zelna. Circumstances had forced him to choose this manner of revenge.

"Prentice!" I shouted madly. "Zelna is on that liner—helpless! Hulan has abandoned the ship—to let it crash!"

"If we can overtake the ship before it reaches the moon, maybe—"

We stepped up our speed to the highest notch. The space liner had not deviated the slightest in its direction, racing on to its doom—and Zelna's death. Deimos loomed large in the sky.

"We've got to shunt it away from the moon!" yelled Prentice.

"We're pretty close now!"

"So is Deimos!"

A short distance ahead of us the unguided space ship raced down upon the Martian satellite, unpiloted. The topography of the little moon became visible.

"Here we are!" cried Prentice.

With his own craft, the captain ran alongside the huge space liner and gave it a vigorous shove. Following his example, I did the same. It was dangerous business. My little space flyer groaned at the contact, throwing me out of my seat. With combined efforts, we both rammed against the liner once more. The N-427 was larger than my little space flyer which bounced off the liner's hull and whirled dizzily for a moment.

"Look out!" screamed Prentice.

Through the front of my flyer, I saw a blazing ball rush at me. My little flyer spun round and round, falling into the attraction of Deimos gravity. Through the window I saw jagged mountains loom close—then whirl by me. Between two mighty mountain peaks my space flyer whisked rapidly. A roaring noise filled my ears as a rain of particles smote my flyer, pounding the metal hull. Then I was past—out of danger. I wiped the sweat from my brow.

Looking upon the detector, I picked out the N-427 and the space liner. The unpiloted craft was safely past, having swung perilously close to the moon. I doubt, however, if it came as close as I did. Prentice was right behind the liner. I stepped up my speed and swung alongside the larger craft.

"Going aboard?" asked Prentice.

"Just as soon as I get this space suit on."

The space liner was now running wild once more, heading off into space upon an uncharted route. I hooked my little flyer to the davits where Hulan had taken off. Shortly after, I transferred to the liner. Feverishly, I searched for Zelna. She lay in the observation chamber, her arms and legs bound securely. Hulan had taken no chances on her meager knowledge of space ship operation. He had meant his revenge to be complete.

She uttered joyous words which I did not hear until I'd set the course of the space ship back towards Mars once more and removed my space suit. After that, I listened. I also discovered that I too had a voice which I no longer feared to use in her presence.

Prentice swung off into pursuit of Nez Hulan, but the human robot had gained too much of a start. The N-427's detectors, so Prentice told me afterwards, lost track of the little space flyer.

Outlawed on three worlds, we knew that when he came back, his capture was certain. Disguise for him was difficult. An aluminum cranium and a dead white face marked him off from other individuals. His metal fingers would sooner or later betray his identity.

If Nez Hulan ever did return to civilization, which I believe he did, no one was aware of it. When humanity finally heard of Nez Hulan again, he was a leader among the moon pirates who infested the earth's satellite. It seems that the human robot became the scientific mastermind of Carconte's lunar buccaneers. That, however, is another story.

THE END

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Full details on Page 137

The Reader Speaks

In WONDER STORIES QUARTERLY only letters that refer to stories published in the QUARTERLY will be printed.

The City In Space Original

Editor, Wonder Stories Quarterly:

I have read the story "Vandals of the Void" and thought it very good. But I believe that it would not have been nearly so excellent were it not for the marvelous, wonderful, extraordinary, and awe-inspiring illustrations of Paul. That man just cannot be beat when it comes to illustrating science fiction stories.

Also the city in space was an original idea with great possibilities. I can see a time when several of them to be used as refuel stations and to lessen the dangers of interplanetary travel will be strung across the void and established in orbits of their own. It will be like the artificial islands that are to be placed in the Atlantic for the use of airplanes.

The only thing wrong with the story was that it did not contain enough science. Another story that was very deficient in this respect was "The Scarlet Planet". You made a pretty bad slip there.

Lately the QUARTERLY has had too many short stories. I think that in this magazine you should have two long stories and one or two shorts. Like you had in the first two or three issues.

The best of wishes to WONDER STORIES QUARTERLY and many pleas for more novels by Stanton A. Coblentz.

Eugene Bray,
Campbell, Missouri

(The "City in Space" as pictured by J. M. Walsh is, we believe, an outgrowth of the idea of Hermann Oberth, the noted German rocket experimenter, for a station in space. This was pictured very vividly by Otto Willi Gail in "The Stone From the Moon" in the Spring 1930 WONDER STORIES QUARTERLY. It is quite possible that we shall one day see such a station.—*Editor*)

Comments In Esperanto

Editor, Wonder Stories Quarterly:

When I read the Spring Quarterly I was so thrilled at the stories that I decided on taking up Esperanto—the Universal Language—in order to be able to adequately express my opinion on the Summer issue which I was convinced was going to be bigger and better than ever. Well, three months have passed and "our" new Quarterly has been received and read—and enjoyed! It's just, well, here's where my Esperanto comes in:

To Whom it May Concern I think the new Summer issue of "our" WONDER STORIES QUARTERLY is *mirinda, mireginda, perfekta, superega, belega, mirigega, vibriga, interesega, senspiriga* and last but not least *delikatega!!* Which translated means: Wonderful, marvelous, perfect, superb, splendid, astounding (*mirigega* means amazing, too), thrilling, engrossing, breath-taking and superfine!! It was *some* issue and—to use an Irish expression meaning "I'm not kidding you"—I'm not wiping your eye for you!

There was only one thing I didn't think was top-notch in this issue. If it costs me my life, I'm going to say

(*Continued on Page* 142)

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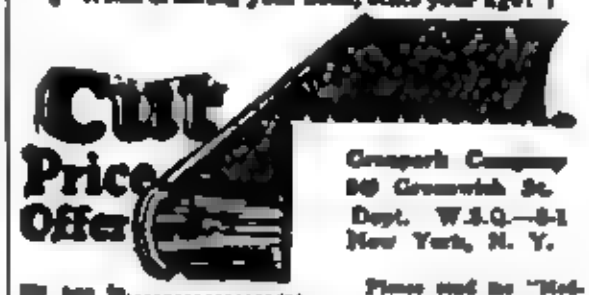

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The Reader Speaks

(*Continued from Page 140*)

it. At last at last at last! a brickbat is going to be thrown by me: I mean I actually disliked it but I don't did *not* like Paul's cover! I don't think it was up to par.

WONDER STORIES QUARTERLY has brought forth Gail, Von Hanstein and Romans and now, now comes Walsh with his *deltkatega* "Vandals of the Void." Not especially new in theme but *how it is told*——! "The Machine of Destiny" was another great story by a newcomer. He certainly must live in San Francisco. All the spots he talks of are very familiar to me. Of all the new and *different* stf. (abbreviation for science fiction) stories that have been written since Hugo Gernsback first started stf., P. Schuyler Miller's "Man from Mars" is the most original and *interesega* in theme. What a powerful tale!

Forrest J. Ackerman,
530 Staples Avenue,
San Francisco, California.

(Mr. Ackerman has us at his mercy with his Esperanto. The best that we can do is to say in good old English, "We thank you!"—*Editor*)

Start Warming Up the Press

Editor, Wonder Stories Quarterly:

I have just finished reading the Summer Quarterly and again the high standards of the WONDER STORIES QUARTERLY is maintained. "Vandals of the Void" by J. M. Walsh was not a complete story so start warming up the press for a sequel. A war between the Mercurians and the people of Earth, Venus, and Mars would surely be contained in a sequel to this story. It should prove to be one of the most interesting interplanetary war stories ever printed between your covers. The only criticism I can make about this story is that several things in it didn't have scientific explanations.

The story which appealed to me for the honor of second place in the issue was "The Machine of Destiny" by U. G. Mihalakis. The theme of this story was unusual. I liked the way the plot was handled and especially the climax. Wow! I am pondering over the question whether it could have been possible for the hero in the story to escape his predestined fate.

True to the style of all Clark Ashton Smith's stories "The Amazing Planet" was packed with thrills from beginning to end. I thought that the heroes in the story would have had quite a bit of trouble getting around in the city of the dwarfs on account of diminutive doorways, etc., but the story only mentions one instance of them having any trouble on this score.

Edward Gervais,
512 S. Pennsylvania Ave.
Lansing, Michigan.

(We thought that the Mercurians had been effectively beaten in "Vandals of the Void" but we will refer to Mr. Walsh the question of a sequel. We doubt personally that the Mercurians would venture again to attack the three outer planets. But whether they do or not is Mr. Walsh's affair. Let us wait and hear what he says about it.—*Editor*)

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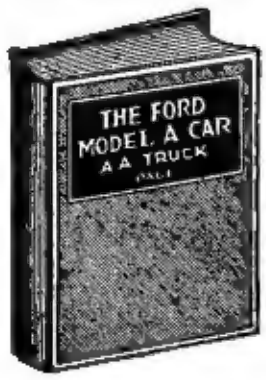

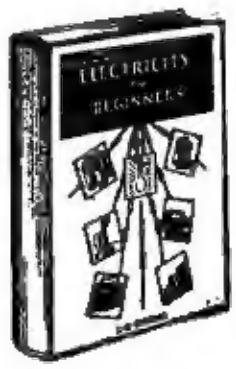

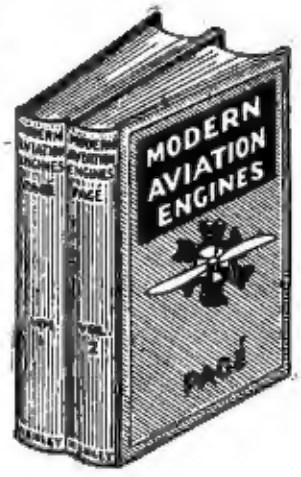

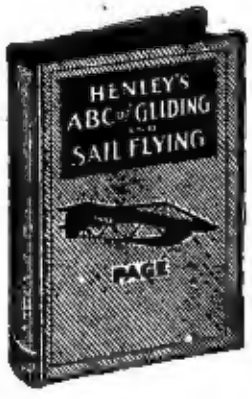

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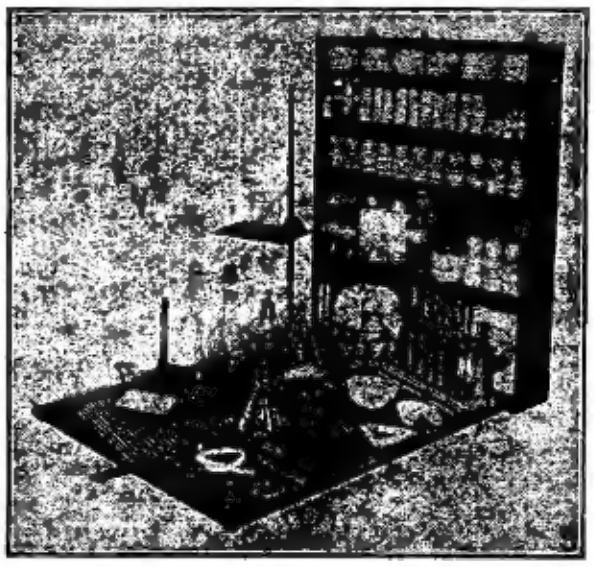

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